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ABSTRACT

This study utilized Mintzberg's taxonomy of managerial roles to examine the roles performed by community college chief academic officers (CAOs). Mintzberg's taxonomy defines managerial roles as a set of behaviors and identifies 10 distinct roles: (1) figurehead; (2) leader; (3) liaison; (4) monitor; (5) disseminator; (6) spokesperson; (7) entrepreneur; (8) disturbance handler; (9) resource allocator; and (10) negotiator. Surveys were sent to 250 CAOs; 184 were returned (74% response rate). The survey examined three environmental variables (span of control, collective bargaining, and region), three situational variables (years in position, years at institution, and managerial experience), and two personal variables (age and gender). An analysis of the data revealed that all 10 managerial roles were reported as being used in the CAO position. However, in many cases, the three most emphasized roles were leader, liaison, and disseminator. There were differences in which roles were emphasized based on the environmental, personal, and situational variables, but only five statistically significant differences were found. The first four dealt with the personal characteristics--the data indicated that female CAOs placed more emphasis on the leader, liaison, and disseminator roles than their male counterparts, and that older CAOs placed more emphasis on the monitor role than their younger counterparts. The fifth difference indicated that managers with less than 5 years of experience do not place as much emphasis on the figurehead role as did managers with more than five years of experience. Appended are the research cover letter, sampling frame and sample, and modified managerial survey. (Contains 71 references.) (RC)

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THE MANAGERIAL ROLES OF PUBLIC COMMUNITY COLLEGE CHIEF ACADEMIC OFFICERS

by

Philip Wayne Anderson, B.S., M.A.

A DISSERTATION

IN

HIGHER EDUCATION

Submitted to the Graduate Faculty
Of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

DOCTOR OF EDUCATION

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I want to thank many people for helping me achieve this wonderful dream. First, I want to thank my Lord and Savior Jesus Christ for giving me the strength to do this. Second, I want to thank my lovely wife for her encouragement and my family for all of their support. Third, I want to thank Dr. John Murray, Dr. Arturo Olivarez, and Dr. Brent Cejda for all of their keen insight and willingness to give me guidance through this process. Fourth, I want to thank Dr. Albert Smith and the rest of the higher education faculty for preparing me to undertake this step in my career.

One thought arrests all my other thoughts as I reflect on my journey. That thought is, "A teacher is not only measured by how much he knows but by how much he passes to the next generation." I believe all of my professors at Texas Tech University have measured well. Thank you and may God bless each and every one of you.

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ABSTRACT

In higher education administration, there is little information concerning the managerial roles of community college chief academic officers (CAOs). Because of this, many CAOs enter the position not knowing what to expect. Therefore, this study was designed to ascertain what managerial roles CAOs perform based on Mintzberg's (1973) taxonomy of managerial roles. Included in the study are environmental, personal, and situational variables associated to CAOs at community colleges across the country. The random sample is representative of the nation and is stratified by six accreditation regions.

Understanding the managerial roles that are actually performed by CAOs will help community colleges in many ways. First, those who aspire to become CAOs will understand what managerial roles will be required of them and to better aid them in preparation for the position. Second, those who are in the position can use the information to help them be more effective. Third, hiring committees can use the information during the search and interview process for finding a new CAO by asking questions related to managerial roles actually performed.

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CHAPTER I

INTRODUCTION TO THE STUDY

Nature of the Problem

Chief Academic Officers (CAOs) have become important members on community college campuses. However, their managerial roles have not been carefully identified nor studied. In 2000, a search of the ERIC and other relevant databases yielded few studies on managerial roles of chief academic officers at community colleges. The fact that many studies have not been done is certainly surprising considering the importance of this position relative to the academic campus. What makes this surprising is that CAOs often have more impact on the academic area of the campus than even the president (Birnbaum, 1988) and one of the paths to the presidency is through the CAO position (Boggs, 1988; Vaughan, 1990; Cejda, McKenney, & Burley 2001).

Despite the importance of the position very little preparation is given to newly appointed middle managers in academic settings (Person, 1985). Most new CAOs learn the job through hands-on experience (Mech, 1997). One reason for this lack of preparation may be the managerial roles of community college CAOs have not been examined. If community college leaders do not know what managerial roles CAOs should perform as Mech (1997) says, then perhaps it is possible that role ambiguity can ensue. Mech (1997) said, "newly appointed CAOs who function managerially as though they were still in a previous deanship or who see the CAO's job as more presidential than

vice presidential may be unknowingly mismatched with the position's managerial nature. This misunderstanding about the managerial nature of the CAO's job can result in poor managerial performance, unnecessary turnover, and wasted institutional resources" (p. 283).

Role ambiguity is an important factor because it is believed to affect an employee's job satisfaction, performance, and turnover in negative ways (Singh, 1991). Role ambiguity is a serious problem because a lack of information about how to proceed with critical operations leads to frustration. This frustration can contribute to tension. Ambiguity also is believed to impede opportunities for improving performance and obtaining rewards and therefore can increase job dissatisfaction (Singh, 1991).

Researchers have noted there are at least four forms of role ambiguity; they include: (1) ambiguity about the scope of one's responsibilities, (2) ambiguity about the behaviors necessary to fulfill one's responsibilities, (3) ambiguity about role senders' expectations, and (4) ambiguity about the effect of one's actions on the attainment of one's goals, the role-set (the set of all individuals with whom one interacts to perform one's role), and the organization (Singh, 1991). All four forms are probably relevant for CAOs; however, at least one of those forms appears to be the most relevant for this study. That form of role ambiguity is concerned with the behaviors necessary to fulfill one's responsibilities. Mech (1997) said, "because the behavior required of a manager varies with the position's level in the organizational hierarchy and the nature of the supervised functions, the managerial behavior that is demanded of a successful department head is apt to be different from that of an effective CAO" (p. 283). Because CAOs seem to be

given little information about their position when they arrive, they can experience frustration concerning what types of behaviors are expected from them.

Organization theorists claim that middle managers' behavior is vital to the health of the organization (Stewart, 1987). If CAOs at community colleges do not know the behaviors expected of them, the health of the institution may be jeopardized.

Do CAOs experience role ambiguity? Bowker (1981) found that CAOs experience considerable role ambiguity. This role ambiguity could explain why Glick (1992) found that CAOs were relatively dissatisfied with their jobs compared to a comparable non-academic group of professionals. It is then plausible to believe that job dissatisfaction could explain at least some of the early resignations academe experiences with the CAO position (College and University Personnel Association, 1991). Resignation is not the only result that can take place. It is also possible that dissatisfaction can lead to poor work performance and productivity as was found with department chairpersons and other managers (Murray & Murray, 1996; Rosin & Korabik, 1995).

Academic management can be an ambiguous process and having a better understanding of management behaviors is key to effective management (Dill, 1984, p. 84). The new CAO needs an understanding of effective managerial roles since management is a highly ambiguous and highly intuitive process. Identifying the managerial roles and giving CAOs time to understand their managerial roles may decrease role ambiguity, which may decrease stress and help increase job

satisfaction and confidence with the position. This study will attempt to determine what managerial roles are emphasized by community college CAOs.

Conceptual Framework for Study

This study will use Mintzberg's (1973) typology to define the managerial roles of CAOs as a set of behaviors. Mintzberg said that all managers perform ten managerial roles: (1) figurehead, (2) leader, (3) liaison, (4) monitor, (5) disseminator, (6) spokesperson, (7) entrepreneur, (8) disturbance handler, (9) resource allocator, and (10) negotiator. Each of these roles are defined in the definition section of Chapter I and reviewed in detail in Chapter II.

Some managerial roles are considered internally focused (leader, disseminator, entrepreneur, disturbance handler, and resource allocator). These are roles dealing with relationships inside the academic affairs area. Other roles are externally focused (figurehead, negotiator, spokesperson, liaison, and monitor). These roles deal with relationships outside academic affairs area.

Each role is influenced by four variable-types: (1) the environment (characteristics of the organization), (2) the job (its level and the functions supervised), (3) the person (characteristics of the manager), and (4) the situation (the temporal features).

In this study, three environmental variables will be studied - span of control (number of employees directly supervised), collective bargaining (faculty

union), and region (separated by six accrediting regions). These environmental variables were chosen because of studies that indicate these variables may contribute to the variance in managerial roles emphasized. Mech (1997) found that much of the complexities of the job could be attributed to the span of control. Steiner (1975) indicated that negotiating could contribute to more complexities for the CAO. Because some community colleges have faculty unions and others do not, it is probable that regions may influence managerial roles emphasized.

The position studied will be held constant (CAOs at community colleges). Two personal variables will be studied: age and gender. Both variables were selected based on Mintzberg's (1980) research. Mech discovered a relationship with age and managerial roles emphasized. Leonard (1981) indicated that management is more androgynous than gender-specific. This study will either contradict or support Leonard's (1981) and Mintzberg's results.

Finally, three situational variables will be studied: years in position, years at institution, and managerial experience. Mech (1997) found that these three situational variables were not significant predictors of emphasized managerial roles for CAOs at comprehensive I institutions. However, they may prove to be significant for community college CAOs. Wiedman (1978) indicated that managerial experience might affect managerial roles emphasized for community college administrators. Studying these variables will help broaden Mech's claim or raise questions concerning differences between community college administrators and comprehensive I administrators.

According to Mintzberg, all managers perform the ten roles described above but individual managers emphasize different roles due to the four influencing variable-types listed above. This study will determine which roles are emphasized by CAOs at community colleges.

Also, this study will determine if relationships exist between any of the environmental, the personal, and the situational characteristics with the managerial roles emphasized (see Figure 1.1).

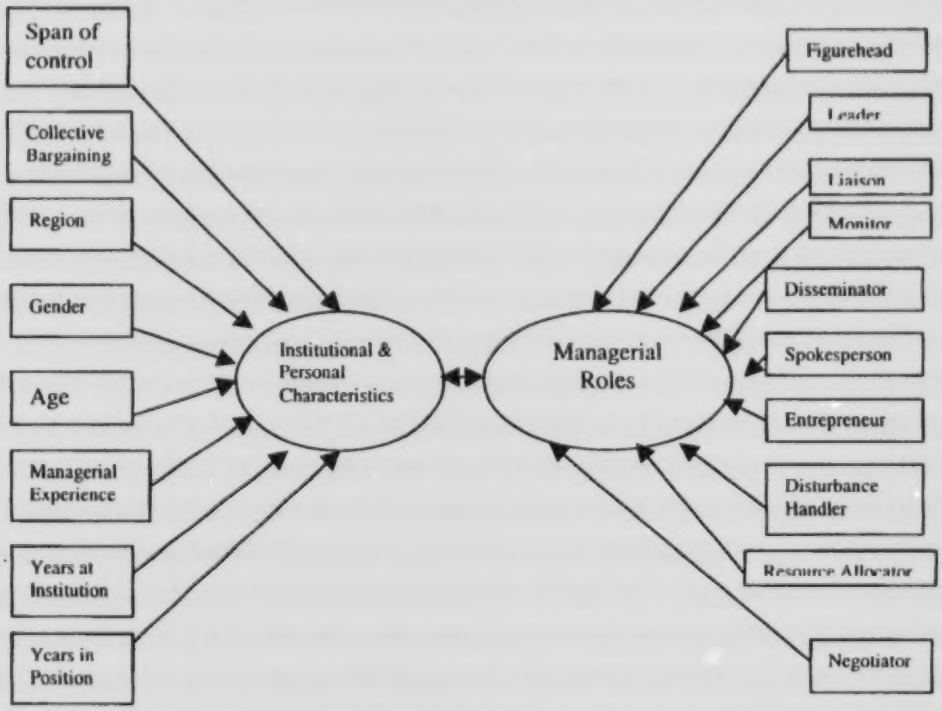

Figure 1.1: Managerial Roles and Influencing Variables

Statement of the Problem

There exists very little information concerning managerial roles used by CAOs at community colleges. This is a problem because without adequate information to help CAOs define their position, role ambiguity may ensue. CAOs experience much role ambiguity according to one researcher (Bowker, 1981). Role ambiguity can create stress and tension for CAOs. Results from too much stress and tension are early resignations, high job dissatisfaction, and lack of productivity and/or poor morale for other constituencies of the campus. Since the emphasized managerial roles of CAOs at community colleges have never been identified, role ambiguity may continue to persist. When academe learns what are the managerial roles community college CAOs emphasize, role ambiguity may decrease.

This study will determine what managerial roles CAOs at community colleges emphasize, how differences in environmental, personal, and situational factors affect CAOs choice of which managerial roles to emphasize, and which factors are the best predictors of what managerial roles CAOs will emphasize.

Research Questions

This research will answer the following questions:

1. What are the managerial roles of CAOs at community colleges using Mintzberg's ten managerial roles?

2. Which of the ten managerial roles do CAOs at community colleges emphasize most of the time?
3. Are there differences in the roles CAOs emphasize because of environmental characteristics (span of control, collective bargaining, and region)?
4. Are there differences in the roles CAOs emphasize because of personal characteristics (gender and age)?
5. Are there differences in the roles CAOs emphasize because of situational characteristics (years of managerial experience, years in position, and years at institution)?

Significance of the Study

Understanding which managerial roles are emphasized by CAOs will help community colleges in many ways. First, those who aspire to become CAOs may gain a better understanding for what managerial roles will be required of them. These individuals will be able to prepare for the position instead of having only hands-on type training experiences. Second, those who are in the position and are dissatisfied due to role ambiguity may find the information useful in clarifying the role. Third, hiring committees can use the information with the search and interview process for finding a new CAO by asking questions related to managerial roles actually performed. Fourth, higher education programs can use the findings in order to help their students prepare for future administration roles.

Assumptions

The assumptions for this study are:

1. The researcher was independent from the CAOs being researched.
2. The researcher was value-free and unbiased to the study.
3. CAOs received and completed the survey.
4. The CAOs answered the questions honestly and accurately.

Delimitations of the Study

Mintzberg's (1973) theoretical framework may ignore other managerial roles pertinent to the field. There may be other environmental, personal and situational variables that have greater relationships to these managerial roles than the ones chosen for the study.

Limitations of the Study

This study has been limited to the CAOs in community colleges. Thus, its' generalizability was limited to that population. Since, respondents evaluated themselves on the modified Judson's survey (1981), the accuracy of the survey may result in a limitation. Role ambiguity and dissatisfaction were measured using one question for each. Therefore, the accuracy of the results for these questions may be a limitation.

Definition of Terms

Chief Academic Officer – a chief academic officer is defined as the administrative head of the academic programs with responsibility for all academic affairs at the institution. At most community colleges the chief academic officer is the second highest-ranking administrative officer and reports to the president.

Community College – a public two-year institution, controlled by state and/or local government, and granting A. A. and A. S. degrees.

Disseminator – "transmits information received from outsiders or from other subordinates to members of the organization; some information factual, some involving interpretation and integration of diverse value positions of organizational influences" (Mintzberg, 1973, p. 92).

Disturbance Handler – "responsible for corrective action when organization faces important, unexpected disturbances" (Mintzberg, 1973, p. 93).

Emphasized Roles – Three most used roles.

Entrepreneur – "searches organization and its environment for opportunities and initiates 'improvement projects' to bring about change; supervises design of certain projects as well" (Mintzberg, 1973, p. 93).

Environmental Variables – "characteristics of the milieu, the industry, the organization" (Mintzberg, 1973, p. 103).

Figurehead – "symbolic head; obliged to perform a number of routine duties of a legal or social nature" (Mintzberg, 1973, p. 92).

Job Variables – "the level of the job and the function supervised" (Mintzberg, 1973, p. 103).

Leader – "responsible for the motivation and activation of subordinates; responsible for staffing, training, and associated duties" (Mintzberg, 1973, p. 92).

Liaison – "maintains self-developed network of outside contacts and informers who provide favors and information" (Mintzberg, 1973, p. 92).

Manager – "the person formally in charge of an organizational unit" (Mintzberg, 1973, p. 56). In this study term used interchangeably with the chief academic officer.

Monitor – "seeks and receives wide variety of special information to develop a thorough understanding of the organization and environment; emerges as nerve center of internal and external information of the organization" (Mintzberg, 1973, p. 92).

Negotiator – "responsible for representing the organization at major negotiations" (Mintzberg, 1973, p.93).

Organization – "the unit directly under the manager's formal authority" (Mintzberg, 1973, p.56).

Personal Variables – "personality and style characteristics of the incumbent in the job" (Mintzberg, 1973, p.103). Also, physical traits of the individual.

Region – defined by six accreditation regions: North Central (NCASC), Middle States (MASAC), New England (NEASC), Northwest (NASAC), Southern (SASAC), and Western (WASC).

Resource Allocator – "responsible for the allocation of organizational resources of all kinds - in effect the making or approval of all significant organizational decisions" (Mintzberg, 1973, p.93).

Situational Variables – "temporal features of an individual job" (Mintzberg, 1973, p.103). Characteristics of individuals' job experiences.

Spokesman – "transmits information to outsiders on organization's plans, policies, actions, results, etc.; serves as expert on organization's industry" (Mintzberg, 1973, p. 93).

Summary

The CAO position has become a very important position on community college campuses. Recently, researchers have begun to study various aspects of the position. At this point, a study concerning the managerial roles of community college CAOs is needed. Current and future CAOs will benefit from the findings. The findings will help practitioners identify and clarify the managerial roles that are performed. The more that is known concerning managerial roles, the less role ambiguity and less job satisfaction should ensue. Hiring committees will be able to use the results in finding candidates who will be effective in the position.

In the next chapter, a discussion concerning the profile of CAOs, job skills, and relevant studies concerning CAOs will be given.

CHAPTER II

REVIEW OF THE LITERATURE

"Accurate reckoning. The entrance into the knowledge of all existing things and all obscure secrets."
(Introduction to Rhind Mathematical Papyrus)

Chapter II is to inform individuals about the position of the CAO through a brief historical review and a review of studies concerning the CAO position. The topics addressed in this chapter include: (1) restatement of the problem, (2) history of chief academic officers, (3) profile of chief academic officers, (4) job description of chief academic officers, (5) competencies of chief academic officers, (6) job dissatisfaction of chief academic officers, (7) Mintzberg's typology (8) Mintzberg's typology and academe, (9) Mintzberg's typology and chief academic officers, and (10) summary.

Restatement of the Problem

Higher education institutions are a different breed altogether from any other type of organization. In some ways, higher education institutions can be compared to businesses and corporations; but as Kerr and Gade (1986) said, businesses do not have any tenured faculty members, they are not susceptible to employee criticism behind the wall of academic freedom, and businesses do not have alumni. Birnbaum (1988) said higher education institutions are much more complex than private businesses and managers of higher education institutions are likely to face challenges traditional

management theories may not address. Birnbaum said, "Leaders in higher education are subject to internal and external constraints that limit their effectiveness and may make their roles highly symbolic rather than instrumental" (1988, p.29). For instance, administrators at higher education institutions may want to implement a new program within the curriculum but in order to do this they must win the consensus of the faculty because of faculty autonomy. If they cannot build that consensus they may not be effective at their position.

In describing the issues facing community colleges, Cohen and Brawer (1996) said as community colleges have become increasingly larger and more complex in function, administrators have had to adjust. Cohen and Brawer (1996) said no matter what form of governance or models of administration implemented, these adjustments have to be made quite frequently because of the changing pace of the organizational milieu.

Much research has been published in order to help administrators adjust. There have been numerous books written on leadership and management to improve the performance of administrators. For example, Jedamus and Peterson (1981) focused on CAOs and how to improve "the effective management and efficient operation of higher education" (p. ix). Even though books such as this have been written to help CAOs with their jobs, Mech (1997) said that efforts to help CAOs have not been effective in improving leadership and understanding managerial roles. The reason, according to Mech (1997), is that these "efforts are unrelated to 'real' organizations and the conduct of managerial life within them" (p. 283).

The job of the CAO can be hard to define (Wolverton, Wolverton, & Gmelch, 1999). Dill (1984) said academic management is an ambiguous process and sometimes highly intuitive. Therefore, identifying managerial behaviors is a crucial part to helping managers improve management performance.

According to Mech (1997), there exists much neglect as far as research is concerned with management and CAOs. It is amazing to find this neglect concerning management in colleges and universities considering the central role institutions have in the culture of the United States (Keller, 1983). This neglect or lack of helpful materials may be a cause of role ambiguity. In turn, this may account for Glick's (1992) discovery that CAOs are relatively dissatisfied with their jobs. Perhaps this is one reason for the high job turnover rate among CAOs (College and University Personnel Association, 1991).

History of Chief Academic Officers

The CAO had become an important person on college and university campuses by the end of the twentieth century. "CAOs on many campuses are the most important in terms of effect on the campus of any other manager including the president" (Birnbaum, 1992, p.113). The name has undergone many changes from the term of dean to many of the latest terms having vice-president in the title (Vaughan, 1990). Even though the name may be different at various colleges, this individual still does many of the tasks that at one time were related to the president of the institution. Prior to 1950, at most

institutions, the CAO was the president (Martin & Samels, 1997). The president was depicted by scholars as a man able to serve all his constituencies with equal amounts of passion, wit, and imagination. He was the primary agent for academics and moral leadership. However, institutions have become much more complex than in the past. Therefore, more individuals had to be added to the administration team including CAOs.

As campuses grew in size and complexity during the early 1900s, larger universities began to split into many divisions each headed by a "dean of the college." The term "academic dean" began to appear as the head governance figure over all the deans of the college. By the end of the first half of the twentieth century, the academic dean became known as second in command or the vice president. These individuals assumed control over all areas of the institutions during the absence of the president.

Between 1960 and 1990, the position of academic dean was becoming professionalized. Descriptions of the role were becoming more standard across the United States. The term "Dean of Instruction" started to be used. Nonetheless, Goodchild and Fife (1991) noted that there was still little preparation given to the CAO to help in preparing for effective management.

Profile of Chief Academic Officers

One of the latest studies on the profile of CAOs at community colleges shows that the average age of CAOs is 50.3 ranging from 32 to 73 years of age. Seventy-four percent were male, while 26 percent were female, although the number of women CAOs seems to be on the rise (McKenney, 2000). Ethnic identities were: (a) 4% African

Americans, 1% Asian Americans, 2% Hispanics Americans, 4% Native Americans, and 88% Caucasian Americans. Thirty percent of CAOs held master's degrees; less than 1%, professional degrees, 34%, Ph.D. degrees; and 33% held Ed.D. degrees.

CAOs come from traditional fields such as humanities (21%), social sciences (20%), and physical/natural sciences/math (23%). Fifty-three percent of CAOs having terminal degrees held them in education. The average tenure of CAOs was found to be 6.1 years ranging from 1 to 34 years (Hawthorne, 1994).

Job Description of Chief Academic Officers

CAOs at community colleges are typically thought of as the second in command. They usually oversee the functions of the faculty, curriculum, and students with respect to their classes (Tucker & Bryan, 1991). Tucker and Bryan (1991) said the Chief Academic Officer's job is to help other people. Theirs is the duty of "building" the college. Job descriptions can be useful tools to reveal how CAOs "build" the institution. The following is a job description from a rural community college in West Texas.

1. The CAO is the chief instructional officer for the college, coordinates the functions of the Dean of Arts and Sciences, and coordinates curriculum.
2. Works closely with the Chief Student Affairs Officer and Chief Business Officer in the assembly of the institutional budget.
3. Instrumental in the interpretation of policy and procedural matters and assists other administrators in communicating them to the faculty and staff.

4. Approves college publications such as catalogs, bulletins, brochures, and calendars relating to academics.
5. Serves as liaison officer from the college to area schools, certain groups and agencies, as well as individuals.
6. Assists in the administration of the evaluation program for the colleges faculty and staff.
7. Serves as a permanent member of the Administrative Council, Academic Council, Instructional Deans Council and other committees as appropriate.
8. Authorizes and supervises the data, information, and reports which are generated through institutional research (South Plains College).

Of course, CAOs' jobs can vary across institutions (Wolverton, Wolverton, & Gmelch, 1999; Vaughan, 1990), but this description encompasses many of the responsibilities that CAOs perform at community colleges throughout the nation.

Hawthorne (1994) noted that CAOs contribute to intellectual pursuits such as publications and presentations. This is quite astounding considering the job description above did not mention publications or presentations. Many CAOs publish and present on a voluntary basis in order to maintain a professional identity. Bowker (1981) mentions that allowing CAOs time to continue scholarly work is very important for satisfaction.

Marchese (1989) and Moden (1987) both chronicled the major functions of the CAO and how much time is devoted to each function. Both studies revealed similar

results. Marcheses' (1989) interview with Richard Miller described four major areas where CAOs spend their time. They spend 32 hours each week on individual and small group meetings, 7 hours on mail and correspondence, 6 hours on social and ceremonial functions, and 2.5 hours on planning and reading. Moden (1987) found that CAOs spend 16.43 hours in group meetings, 17.27 hours in individual meetings, 13.76 hours in individual activities, and 5.93 hours in official social activities.

Moden (1987) said CAOs at community colleges averaged 50-hour workweeks. In contrast, their 4-year counterparts averaged 55-hour workweeks. He said that their work included twenty-two areas broken down from the four major areas listed above. Table 2.1 depicts his findings.

Table 2.1: CAO Responsibilities

Responsibilities	Time
1. Drafting responses	3.69 hours
2. Reading mail	3.39 hours
3. Standing Committee meetings	2.90 hours
4. Dean's group	2.75 hours
5. Meeting individual faculty	2.68 hours
6. Planning	2.56 hours
7. Reading professional materials	2.48 hours
8. Individual meetings with deans	2.46 hours
9. Presidents cabinet meeting	2.44 hours
10. Meeting with V. P. group	2.40 hours
11. Ad Hoc community meetings	2.37 hours
12. Meetings with staff	2.32 hours
13. Individual meetings with chairs	2.24 hours
14. Individual meetings with president	2.14 hours
15. Individual meetings with V.P.	1.87 hours
16. Planning committee meeting	1.71 hours
17. Walks around campus	1.64 hours
18. Ceremonial activities	1.56 hours
19. Official dinners	1.55 hours
20. Job-related dinners	1.43 hours
21. Receptions	1.39 hours
22. Teaching	3.19 hours

Worthy of note is that many of the CAOs in his study said that teaching was one of the responsibilities they performed. However, it appears that CAOs spend most of their time in meetings, sending responses, and reading mail. CAOs do try to spend some time staying in touch with the campus. Findings revealed they spend 1.64 hours walking around the campus. This is important because it is possible that disassociation could occur in terms of the CAO and the faculty or with the CAO and students if a device such as campus walks is not implemented. Sometimes, success depends on paying attention to details. This study shows that CAOs do pay attention to the details.

Competencies of Chief Academic Officers

Research suggests that CAOs need to have knowledge and skills within five major categories: communication, conceptual, contextual, interpersonal, and technical (Townsend & Bassoppo-Moyo, 1996). The following summarize Townsend and Bassoppo-Moyo's (1996) findings.

Communication competencies that are needed are working with a computer as well as the traditional skills of listening, speaking, and writing. Conceptual competencies include a broad-based knowledge of the liberal arts and/or knowledge of one discipline in-depth as well as a theoretical knowledge of higher education. Contextual competencies included understanding legal issues and state/federal laws surrounding higher education, knowledge and skills related to teaching and learning, and they must have an understanding for curriculum and cultural diversity. Interpersonal competencies

include skills in human relations. More specifically, CAOs need to know participatory management, team building, facilitation of group interactions, conflict resolution, mediation, and negotiation. Technical competencies include skills in budgeting, expertise in evaluation of people or programs, analytical skills, managing time, scheduling classes, and dealing with union contracts.

Oosting (1985) said that CAOs from private Christian colleges had several common management competencies they emphasized. The nine CAOs he studied emphasized (1) the ability to build relationships with both the president and the faculty, (2) the ability to understand and implement collegial governance, (3) the ability to recognize that academic leadership rests with the CAO, (4) the ability to recognize the thrust of the CAO is to improve academic quality, and (5) the ability to realize effective management begins with close attention to processes, leadership, informal organizations, communication, and debate of issues.

Watkins (1982) said institutions that need new innovations within the campus community; need to have managers with the following competencies. These managers must have excellent interpersonal skills and the ability and willingness to make difficult decisions. Also, they must have the ability to make strategic plans.

Men and women do not appear to have different managerial competencies (Leonard, 1981). Managerial roles may be androgynous. Results of Leonard's study suggests that the university climate may encourage more androgynous managers. However, some minor differences may exist. The men and women interviewed showed

remarkably more similarities than differences. As for differences, the women noted slightly more concern for others; also they were concerned with and skillful at the more traditionally male organizational behaviors. The responses of the men demonstrated recognition and development of skills in relating and communicating with others.

Managerial competencies seem to be different in organizations with a large span of control to organizations with a small span of control. Even though the literature is quite sparse concerning this aspect, Baldridge (1973) has described enough information to extrapolate general competencies needed. Baldridge (1973) said that a strong trend toward greater faculty autonomy in larger institutions was very noticeable within the data. Larger institutions have more complex tasks that are divided into specialized components. These components or units are composed of highly trained staff that is given more power and autonomy than units at smaller institutions. Thus, competencies necessary for small highly bureaucratic organizations are not necessarily the same competencies used at larger more collegial institutions. Administrators who work at institutions with a large span of control would be more likely to use their strong interpersonal skills to build faculty consensus than those within smaller span of control institutions.

The years of experience can influence which competencies administrators believe are the most important. Wiedman (1978) studied California administrators at community colleges and found experienced administrators (years greater than 8) believed the greatest

competency areas were with long-range planning, facilitating communication, constructive criticism, motivating staff, effective staff management, and implementing change. New administrators (years less than 3) believed the greatest competencies were in the areas of budget management, funding sources, and computer expertise.

Institutions with collective bargaining can create unique problems for CAOs, thus creating new competencies CAOs must possess. Steiner (1975) said negotiating CAOs must keep a sharp sense of balance between the immediate role as institutional representative at the bargaining table and the long-term task of providing instructional leadership for the campus.

CAOs must be skilled at the competencies mentioned. If they do not know what competencies they need for the job or if they are lacking in any of these areas, they may get discouraged and frustrated. This may lead to job dissatisfaction. It is quite possible that CAOs could have much job dissatisfaction. The next section describes CAOs and possible job dissatisfaction.

Job Dissatisfaction of Chief Academic Officers

Dissatisfaction is a problem with management in general. Dissatisfaction can occur when role ambiguity is present with a given position. For CAOs, it appears that they would have much role ambiguity. "Even to a casual observer, the lack of clearly stated job duties and ambiguous authority would suggest the position of CAO is potentially rife with role conflict and role ambiguity" (Murray, Murray, & Summar, 1999, p. 25). Researchers have noted that role ambiguity is an important factor because it

is believed to effect an employee's job satisfaction, performance, and turnover in a negative way (Singh, 1991). Role ambiguity is a serious problem because a lack of information about how to proceed with critical operations such as uncertainty over one's authority to act may lead to frustration. This frustration can contribute to tension. "Role conflict and role ambiguity are detrimental to a manager's performance and satisfaction, because they produce job-related tensions and dissatisfaction in individuals. Low productivity, poor quality work, excessive turnover, and difficult employee relations are organizational symptoms of role conflict or ambiguity" (Mech, 1997, p. 284). Researchers (Maher, 1985) say the best way to control stress is to discuss and clarify the managerial roles of the position with the immediate supervisor.

Ambiguity also is believed to impede opportunities in improving performance and obtain rewards, and therefore, increase job dissatisfaction (Singh, 1991). An excellent measure of institutional effectiveness includes managerial behavior. "The most powerful predictor of organizational effectiveness in colleges and universities is administrative behavior. Results from...research show that administrators are more important than environment, structure, age, institution type, and control in accounting for performance" (Whetten & Whetten, 1985, pp. 35-36). Role ambiguity can contribute to an institution having poor effectiveness. Furthermore, many researchers have shown dissatisfaction within the administrative ranks of an institution can cause poor morale throughout the whole institution due to administrative ineffectiveness (Atkins & Hageseth, 1991; Hill &

French, 1967; Madron, Craig, & Mendel, 1967). This organizational ineffectiveness linked with tension and role ambiguity can create an atmosphere unconducive for administrators to stay, thus many may leave the institution through early resignation or through involuntary means.

Do CAOs leave because of job dissatisfaction? The literature concerning job dissatisfaction of CAOs is divided. Glick (1992) said that compared to a normative group of professionals outside of academe, CAOs were dissatisfied with their jobs. Murray, Murray, and Summar (2000) found that CAOs were quite satisfied with their jobs. However, Glick (1992) and Murray, Murray, and Summar (2000) found that CAOs do leave the institution early. Glick (1992) said role ambiguity and role conflict were two causes that might explain why CAOs experienced job dissatisfaction and thus caused them to abandon the position. Murray, Murray, and Summar (2000) revealed that many CAOs are using the position as a stepping-stone to the presidency as noted by Vaughan (1990). This could also explain why CAOs are leaving the position.

Bowker (1981) found that CAOs have much role conflict and that it is caused by clashing constituencies, role ambiguity, lack of correspondence between organization requirements and the personalities of incumbent deans, changing organizational needs over time, and historical trends in the definition of the position. Satisfaction of CAOs is related to opportunities for raising the academic standards at institutions, opportunities for contributing to curriculum development, and participating in hiring qualified faculty. Dissatisfaction is related to situations in which the CAO is the initiator of conflict, the

CAO is the defendant in an attack on the administration, or the CAO fulfills the obligations of the conciliator (Bowker, 1981).

In order to improve the role of the CAO, Bowker (1981) recommended the position be clarified with respect to planning, evaluation, resource allocation, and other administrative functions. Bowker said what attracts individuals to this position and how the balance between satisfaction and dissatisfaction lead to resignation after a short time needs to be known.

As stated earlier, stress can be a major factor to job dissatisfaction for CAOs. As work related stress increases, job satisfaction decreases for CAOs (Wolverton, Wolverton, & Gmelch, 1998). According to the literature (Wolverton, Wolverton, & Gmelch, 1998), females experience less stress than males; older CAOs experience less stress than younger CAOs; and increases in role conflict and role ambiguity directly contribute to job stress. Minority status, marital status, having children living at home, and the size of the institution had little affect on either job satisfaction or work-related stress.

Managerial Models

Theoretical models are used to simplify complex phenomena. They can be useful in helping researchers find out information concerning some phenomena or draw conclusions about phenomena. Specifically, there have been theories created to simplify the understanding of managerial behavior.

Classical theory has been a popular framework for explaining managerial behavior. However, according to Hannaway (1989), it has lagged way behind knowledge in practice. Classical theory "assumes away" the essence of managerial behavior, she said. It denies the uncertainty and ambiguity related to managerial work. Classical theory has assumed administrative systems are tightly coupled in at least three ways. The first assumption is that parts of the administrative system function in a highly coordinated and closely coupled manner. In other words, all areas of the enterprise work and act as one unit. Second, classical theorists assume that there is a tight coupling between preferences and actions. This means that if one's preferences are known, then one's actions are known as well and vice versa. The third assumption is that managers know the value of the information they bring to a given problem. In other words, they know for sure what information to bring to a particular problem (with little or no ambiguity). Hannaway (1989) said classical theorists assume the goals of the organization are unambiguous and stable and are usually agreed upon by all in upper administration.

According to Hannaway (1989), the classical model view of the manager is like that of an engineer. The manager simply designs rules, procedures, and incentive schemes to ensure lower subordinates do what is expected of them. This manager is an engineer who makes sure the dials are set correctly on various parts of the machine (i.e., workers are doing the appropriate tasks).

Since ambiguity, uncertainty, and conflict are endemic to organizations, many researchers have moved away from the classical models. Some researchers such as

Mintzberg (1973) have focused on the individual manager and how that individual relates with the organization. Mintzberg's model was based on observation of actual managers performing their managerial duties. The model took into account that managers do have conflict, that there functions are ambiguous at times, and that uncertainty of direction or even of goals is apparent. Mintzberg recognized that managers do not exhibit behaviors like that of an engineer who simply makes sure all the dials are set correctly on various parts of the machine. Instead, he found that the manager's job was sporadic. Managers move from meeting to meeting; they are constantly moving; their jobs are extremely fragmented. From these observations came his typology for managerial behavior. His typology helps simplify the understanding of managerial behaviors. Even though there are other theories for understanding managerial behaviors none of the other theories are more effective for this study than Mintzberg's typology. Therefore, the scope of this study will stay within the boundaries of Mintzberg's typology.

Kuhn (1970) said most theories within the field of organizational theory are incommensurable, so that they cannot be compared to see whether they are compatible or not. For this reason, the researcher felt it necessary to only talk about what theory would be utilized in answering the research questions within this study and not go into a detailed analysis describing other theoretical models.

Mintzberg's Typology

To find out what exactly managers do, Mintzberg has spent most of his life writing books on the subject (Mintzberg, 1973). Mintzberg's credibility as an author, as a

researcher, and as a professor is impeccable. His web page on the Internet reveals many of his accomplishments.

> Dr. Mintzberg is among the most distinguished contemporary management authors and is recognized for his expertise, innovation and dynamism worldwide. He was first Fellow to be elected to the Royal Society of Canada from the field of Management and has received many awards and honors for his work in Canada and abroad, including honorary doctorates from the University of Venice, University of Lund, Universite de Lausanne and Universite de Montreal. He completed a term as President of the Strategic Management Society. His well-known books include The Nature of Managerial Work (1973), The Structuring of Organizations (1979), Power In and Around Organizations (1983), The Strategy Process (1988, 2nd ed. 1991), and Mintzberg on Management: Inside Our Strange World of Organizations (1989), several of which have been translated into many languages. His book, The Rise and Fall of Strategic Planning, won the best book award of the Academy of Management in 1995. His latest book is The Strategy Safari.
> Dr. Mintzberg has contributed to most of the major journals in his field, including Harvard Business Review, California Management Review, and Academy of Management Review.
> (http://www.management.mcgill.ca/faculty/prof/mintzber.htm)

According to Mintzberg (1973), all managers in every organization fulfill ten roles. Those roles are: (1) Figurehead, (2) Leader, (3) Liaison, (4) Monitor, (5) Disseminator, (6) Spokesman, (7) Entrepreneur, (8) Disturbance Handler, (9) Resource Allocator, and (10) Negotiator. These roles are categorized into three main groups. The first three are Interpersonal roles (figurehead, leader, liaison), the second three are Informational roles (monitor, disseminator, spokesman), and the last four are Decisional roles (entrepreneur, disturbance handler, resource allocator, negotiator).

Mintzberg (1973) said the manager's position is always the starting point in a given analysis concerning organizations. Since, the manager is the leader of a particular organizational unit formal authority and status is immediate for the manager. From this formal authority and this status come the interpersonal roles. First, the manager plays the role of the figurehead. The manager represents the company in all formal matters of engagement with the external constituencies. Second, this status allows the manager to play the role of the liaison. Managers form partnerships with colleagues and other people outside the organization to secure favors and information. Third, the manager is the leader. The authority that managers have relegates to them the role of motivator, staffer, and a sundry of other jobs.

The uniqueness of the manager having access to important information makes the manager the focal point for organizational information. Thus, the managers second major role is formed – the informational role. The manager is the monitor of the system because the manager receives and collects information allowing for broader understanding of the organization. Because the manager is able to give information to individuals throughout the organization, the role of disseminator is also important. In a much broader sense, the manager is able to carry the organization's information to the environment at large and fulfill the role of the spokesman.

Because the manager is the apex of status and authority and because all

information must come through this position, this centers the manager at the focal point for decision-making. Within this main role of decision maker are four roles. First, the manager is an entrepreneur. The manager is at the forefront of making changes. When the organization is threatened, the role of disturbance handler is performed. As a resource allocator, the manager decides where the institution will expend resources. Finally, as the negotiator, the manager must face situations that could jeopardize some facet of the organization and so negotiations must be held.

Mintzberg's Typology requires three assumptions. These assumptions are: (1) all 10-management roles are required to some degree by all managers, (2) each management role is interdependent with at least one other management role, and (3) adjacent managerial roles form a directional linear pattern from interpersonal to informational to decisional.

Mintzberg's Typology and Academe

Using Mintzberg's Typology (1973), Dill (1984) came to the conclusion that the nature of academic management was very similar to the management of corporate America. In a study analyzing department chairs, Seedorf and Gmelch (1989) found that indeed department chairs' managerial roles were quite similar to those roles found in corporate executives. Blau (1973) found that many of the same fundamental forces at work in shaping academic administration are the same forces at work in other organizations.

Studies have been done applying Mintzberg's Typology to academic organizations. In fact, many of those studies focused on collegiate managers. However, those studies used small samples and were qualitative in nature (Burke, 1985; Fain, 1987; Hammons & Ivery, 1988). Some studies focused on midlevel university deans (Barrax, 1984; Chukuma, 1983). Other studies focused on presidents (Cote, 1985), while other studies were focused on chief student affairs officers (Judson, 1981), library directors (Mech, 1990; Moskowitz, 1986; Person, 1980; Pugliese, 1985), and computer information services directors (Cooper, 1993). Finally, one study has been done describing the managerial roles of CAOs (Mech, 1997). However, it is only generalizable to comprehensive I colleges and universities.

Mintzberg's Typology and Chief Academic Officers

Mech (1997) used Mintzberg's typology to identify the emphasized managerial roles that CAOs at comprehensive I colleges and universities perform. It was hypothesized that by identifying the managerial roles that CAOs emphasized, new insights could be gained in helping the process of selecting, developing, and retaining CAOs.

Mech (1997) used an instrument developed by Judson (1981) that focused on the role the manager's emphasized. In other words, the instrument focused manager's attention on what roles the manager perceived the job required instead

of what roles each manager believed was most important. Of the managerial roles, respondents showed leadership as the most important role, followed by resource allocator, disseminator and monitor, and entrepreneur. Disturbance handler, figurehead, liaison and spokesperson, and negotiator were found to be less emphasized by the CAOs.

To develop a picture of CAOs, Mech (1997) clustered role types in the following manner in which they were identified. The roles identified were in the following order: (1) internal, (2) interpersonal, (3) informational, (4) decisional, and (5) external. Internal roles were defined as those of the leader, disseminator, entrepreneur, disturbance handler, and resource allocator. Interpersonal roles were defined to be the figurehead, liaison, and leader. Informational roles were that of the monitor, disseminator, and spokesperson. Decisional roles were defined as the entrepreneur, disturbance handler, resource allocator, and negotiator. External roles were defined as those of the figurehead, negotiator, spokesperson, liaison, and monitor.

The picture that emerged from the results of Mech's (1997) study is that CAOs at comprehensive I institutions are internally focused team managers that are part of a collegial organization and are trying to keep a smooth-running system. The CAOs must have close consultation and cooperation with the faculty who are performing the primary work and the middle managers who are facilitating that work.

Even though a CAO is concerned for the internal operations, this does not preclude from being interested in the organization's strategic needs. CAOs are constantly scanning their institutions for new opportunities and growth.

Because of the collegial atmosphere (faculty autonomy), CAOs usually cannot rely on their formal power. Therefore, CAOs must rely on their interpersonal skills to develop mutual understandings and working relationships among the different constituencies.

The CAO must rely on the cooperation of faculty and middle managers to effectively carry out decisions. It is not possible for CAOs to make decisions and expect them to be carried out without faculty and middle managers support.

Summary

This present study answered what managerial roles are emphasized by community college CAOs. Included with the study were answers concerning job satisfaction and role ambiguity as well as differences and relationships between environmental, personal, and situational characteristics with managerial roles that were emphasized. The environmental, personal, and situational characteristics that were selected were chosen based on Mech's (1997) study. Several variables were justified for their importance through the literature review. Variables in Mech's (1997) study that were not reviewed in this chapter were not reviewed simply because there was a gap in the current literature, thus giving more reason to explore them.

One reason this study was needed was because of the possible dissatisfaction among CAOs (Glick, 1992). Understanding the managerial roles may help academe know more about this position and help CAOs understand their job better. Perhaps a decrease in role ambiguity may occur among those who might have a propensity to leave due to role ambiguity. Even if job satisfaction is not a problem, knowing more about the position that is most common for presidents to hold prior to their term (Moore, Twombly, & Martorana, 1985; Ross & Green, 1998; Vaughan, 1986) is very important.

CHAPTER III

METHODOLOGY

Introduction

The main objective of Chapter III is help readers gain familiarity for the procedures used in conducting this study. The topics covered in this chapter include: (1) restatement of the problem, (2) restatement of the significance of the study, (3) research design, (4) instrumentation, (5) population and sample, (6) data collection procedure, (7) data analysis, and (8) summary.

Restatement of the Problem

There exists very little information concerning managerial roles used by CAOs at community colleges. This is a problem because without adequate information to help CAOs define their position, role ambiguity may ensue. CAOs have much role ambiguity according to one researcher (Bowker, 1981). This role ambiguity can create much stress and tension on CAOs. Results from too much stress and tension may lead to early resignations, high job dissatisfaction, and/or lack of productivity (Singh, 1991). Since the emphasized managerial roles of CAOs at community colleges have never been identified, role ambiguity may continue to persist. When academe learns what managerial roles are emphasized by CAOs at community colleges, role ambiguity may decrease.

This study helped answer what managerial roles CAOs at community colleges emphasize, how differences in environmental, personal, and situational factors affect CAOs choice of which managerial roles to emphasize, and which factors are the best predictors of which managerial roles CAOs will emphasize.

Restatement of the Significance of the Study

Understanding the managerial roles that are actually emphasized by CAOs may help community college leaders in many ways. First, those who aspire to become CAOs will understand what managerial roles will be required of them and will be better able to prepare for the position instead of having only hands-on type-training experiences. Second, those who are in the position and are dissatisfied due to role ambiguity may find the information useful in helping them be more effective in their role. Third, hiring committees can use the information during the search and interview process for finding a new CAO by asking questions related to managerial roles actually performed. Fourth, higher education programs can use the information to help train future CAOs.

Restatement of the Research Questions

This research will answer the following questions:

1. What managerial roles do CAOs at community colleges perform?
2. What managerial roles do CAOs at community colleges emphasize?

3. Are there differences in the roles CAOs emphasize because of environmental characteristics (span of control, collective bargaining, and region)?
4. Are there differences in the roles CAOs emphasize because of personal characteristics (gender and age)?
5. Are there differences in the roles CAOs emphasize because of situational characteristics (years of managerial experience, years in position, and years at institution)?

Research Design

This study utilized survey, causal-comparative, and correlation methodology. Survey methodology is a form of data collection used to solve an information problem (Alreck & Settle, 1995). Causal-comparative methodology seeks to discover cause and affect relationships (Gall, Borg, & Gall, 1996). Correlation methodology is used to answer questions concerning relationships between variables (Jurs, 1998).

The survey ascertained information concerning managerial roles used by CAOs at community colleges. The survey used was a managerial role survey based on Mintzberg's taxonomy (1973) designed by Judson (1981) and modified by Mech (1997) to determine the emphasized managerial roles of CAOs. Other information obtained through the survey related to the environmental, personal, and situational characteristics that influence the choice of managerial roles according to Mintzberg.

Descriptive statistics were used to determine managerial roles emphasized, as well as environmental, personal, and situational characteristics for CAOs. Causal-comparative statistical methods were used to describe differences in managerial roles with respect to environmental, personal, and situational variables. Correlation statistical methods were used to discover relationships between environmental, personal, and situational variables and managerial roles emphasized by community college CAOs.

Instrumentation

An instrument based on Mintzberg's Taxonomy (1973) that Judson (1981) developed for her study and modified by Mech (1997) for CAOs will be used in this study. This instrument is appropriate because it focuses on the manager's overall performance of managerial roles. That is, the instrument does not ask CAOs what they believe are the important roles of the job, but what extent each managerial role is required throughout the year to perform the duties of the CAO.

All instruments should show validity and reliability. Construct validity "is a type of measurement validity based on the correspondence between theory about the construct we are attempting to measure and results obtained using the measurement instrument being validated" (Vierra, Pollock, & Golez, 1998, p. 365). Content validity "is a type of measurement validity based on analysis (usually by people thought to be experts in the field in question) of the content of

the instrument being validated" (Vierra, Pollock, & Golez, 1998, p. 365). Reliability of the instrument "refers to whether a measurement instrument is consistent - that is, consistently gives the same answer to the same question" (Vierra, Pollock, & Golez, 1998, p. 368).

Judson (1981) maintained that the content and construct validity and reliability of the instrument were sufficient. For content validity, Judson's (1981) instrument was previously reviewed by Mintzberg. When Judson began her study, she adapted the instrument and pre-tested the instrument with managers in private organizations. This step ensured the language used was appropriate. Next, Judson sent the instrument to 200 randomly selected student affairs officers as a pilot study to test for reliability and internal validity. To establish internal validity, factor analysis was utilized. Factor analysis is a technique used to simplify large descriptions of data into smaller homogenized factors that are moderately or highly correlated with each other (Gall, Borg, & Gall, 1996). Results from Judson's factor analysis verified two of the key assumptions that Mintzberg (1973) said are required by all managers – all ten management roles are required to some degree by all managers and each management role is interdependent with at least one other management role. The only assumption that was not verified was that managerial roles form a directional linear pattern from interpersonal to informational to decisional roles. Due to the nature of this research (exploratory) and the survey, this assumption would be difficult to verify and would fall outside the scope of this study.

To establish reliability, the split-half method was performed with the data that was returned (76% return rate). In this case, the split-half method compared scores from the first set of questions (1-10) to scores from the second set (11-20) to tell if responders were consistent with their responses. A Pearson product-moment correlation was computed along with a correction for underestimate with the Spearman-Brown formula. A Pearson product-moment correlation is a mathematical expression of the direction and magnitude of the relationship between two measures that yield continuous scores (Gall, Borg, & Gall, 1996). The Spearman-Brown formula is a correction to the split-half reliability correlation coefficient to adjust for the fact that this coefficient only represents the reliability of half the test (Gall, Borg, & Gall, 1996). Since more parallel items could have been added to the instrument, the Spearman-Brown formula was appropriate to use (Gall, Borg, & Gall, 1996). The correlation coefficient computed was 0.80. For educational research 0.80 is the minimum value that is acceptable (Vierra, Pollock, & Golez, 1992).

Mech (1997) modified the instrument for CAOs. He tested for reliability using the split-half method and maintained the instrument was still valid because he only changed the wording so the instrument would be appropriate for CAOs. After computing a Pearson product-moment correlation along with a correction for underestimate with the Spearman-Brown formula, he found the reliability was 0.83.

The original survey had two indicator variables (questions) for each latent variable (managerial roles). Therefore, there were twenty questions concerning managerial roles. For the present study, ten more questions were added to the original twenty because latent factors having less than three indicator variables generally exhibit problems with identification and convergence.

Hatcher (1994) said, "Technically, a latent factor may be assessed with just two indicators under certain conditions. However, models with only two indicator variables per factor often exhibit problems with identification and convergence, so it is recommended that each latent variable be assessed with at least three indicators" (p. 260).

Internal consistency of the instrument as modified for this study was measured using Cronbach's alpha and exploratory factor analysis in order to make sure the survey was measuring what it claimed to be measuring. Cronbach's alpha is appropriate to use since it measures the internal consistency of a test based on the extent to which test-takers who answer a test item one way respond to other items the same way (Gall, Borg, & Gall, 1996). Exploratory factor analysis is a statistical procedure for reducing a set of measured variables to a smaller number of variables by combining variables that are moderately or highly correlated with each other (Gall, Borg, & Gall, 1996).

Mintzberg's ten managerial roles were operationalized for the purposes of this study in the following manner (see Table 3.1).

Table 3.1: Managerial Role Questions

Managerial Roles	Questions
Figurehead	1. Participating in a variety of symbolic, social, and ceremonial activities such as attending convocations and banquets?
	11. Feeling obligated to perform a number of routine duties of a ceremonial or social nature such as meeting institutional guests?
	*21. Participating in a variety of symbolic, social, and ceremonial activities such as speaking at convocations or banquets?
Leader	2. Creating a milieu in which faculty and staff will work effectively?
	13. Interacting with colleagues within Academic Affairs to develop professional activities and duties?
	*22. Encouraging teamwork among your staff?
Liaison	3. Maintaining a network of contacts and information sources outside the Academic Affairs division?
	14. Developing good interpersonal relations with personnel outside the academic office and academic staff?
	*23. Passing information between your department and outside departments?

Table 3.1: (Continued)

Managerial Roles	Questions
Monitor	4. Seeking and receiving information so that you can improve or maintain your understanding of the institution and its' environment?
	15. Developing your own contacts to establish a personal and informal information network?
	*24. Monitoring the internal and external environments to make sure operations are running smoothly?
Disseminator	5. Sharing pertinent information received from outsiders or faculty and staff with the appropriate internal office or individuals?
	16. Sharing accumulated relevant information with faculty and staff?
	*25. Ensuring staff and faculty are updated with information relevant to them?
Spokesperson	6. Disseminating information to people outside the Academic Affairs division or the institution?
	17. Representing the Academic Affairs division or your institution to outside groups?
	*26. Serves as an expert in Academic Affairs area?

Table 3.1: (Continued)

Managerial Roles	Questions
Entrepreneur	7. Searching the institution and its' environment to identify opportunities and situations that may require organizational change?
	12. Initiating and designing much of the change that occurs within the Academic Affairs division?
	*27. Scanning the internal and external environment looking for new innovations to be implemented?
Disturbance Handler	8. Taking corrective action when you face important, unexpected problems or crises?
	18. Taking corrective action because unexpected pressure from either within or outside your institution is too great to ignore?
	*28. Putting a stop to misbehavior within or outside your department?
Resource Allocator	9. Allocating institutional or Academic Affairs divisional resources?
	19. Scheduling your own time and approving various authorizations within academic affairs?
	*29. Spending time on resource allocation for personnel in Academic Affairs?

Table 3.1: (Continued)

Managerial Roles	Questions
Negotiator	10. Representing the Academic Affairs division or the institution at various non-routine discussions or negotiations?
	20. Resolving problems that develop with other institutional units?
	*30. Working with two parties to come to an agreement?

* Denotes questions developed by this researcher.

Each of the ten roles was measured by three separate questions. Respondents were asked to what extent each role is used and they indicated the extent of the role with a four-point Likert scale describing to what extent they used each role using the following 4-point scale:

(1)	(2)	(3)	(4)
Not At All	A Little	Some	A Lot

The modified instrument used in this study was composed of two parts: items 1-30 measured managerial roles while items 31-39 measured environmental, personal, and situational information.

Content Validity

Because a newly modified instrument needs to be critiqued for content validity, a project involving ten managers was performed. The ten managers were given a copy of the newly modified instrument along with definitions of the managerial roles and were asked to critique the instrument for validity of the Managerial roles (latent factors). Each of Mintzberg's ten managerial roles (latent factors) was operationalized through three questions (indicator variables) described in the instrumentation section. The managers were asked to identify which combination of three questions (indicator variables) corresponded to each of the ten managerial roles (latent factors). For example, the managers should have verified that questions 1, 11, and 21 correspond to the Figurehead role. If they did not agree, then revisions in wording were made to the survey. Questions 13, 18, and 26 were reworded.

After the project was finished and awkward or misleading wording was corrected, then the researcher felt confident that the survey measured what it claimed to measure–the ten managerial roles as defined by Mintzberg.

Population and Sample

Just as Mech (1997) controlled for the influence of some external factors on managerial roles by limiting his target population to comprehensive I colleges and universities, this study also controlled for the influence of some external factors on managerial roles. The target population for this study was CAOs

from community colleges. Since the population was homogenous, the results should be generalizable to the target population.

The sample population was selected using stratified random sampling. This sampling technique was used because community colleges are populated throughout six accreditation regions of the country; however, some regions have many more colleges than others. Therefore, in order to have a national sample that truly reflects community colleges, stratifying the colleges based on region was a logical step to take.

A three-step process was used to establish a representative sample from the population of colleges. First, the target population was categorized by six accreditation regions (See Definitions section in Chapter II for the accreditation regions). Second, percentages of community colleges from each region were calculated for representation purposes for the sampling frame (see Figure 3.1). Third, colleges from each accrediting region were selected randomly from the sampling frame (see Appendix D). This process ensured an unbiased sample representative of all community colleges in the United States.

For statistical analysis purposes, over-sampling of three accreditation regions was necessary. In order to perform a MANOVA using accreditation regions, each cell needs to consist of at least eleven colleges. Therefore, MASAC, NEASC, and NASAC were over-sampled to try to ensure this number of colleges within each cell.

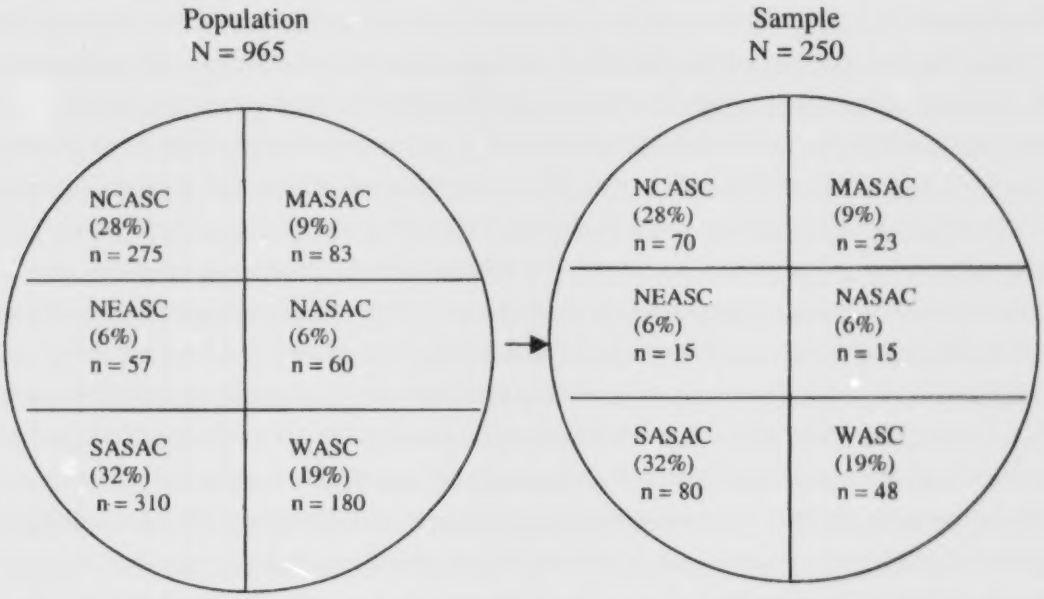

Figure 3.1: Sample Frame

Collection of Data

In order to contact CAOs, a list of phone numbers, addresses, and e-mails was compiled using the six accrediting agencies' websites/directories. Next, packets containing Judson's (1981) modified (Mech, 1997) survey and instructions concerning the survey along with a self-addressed stamped envelope were mailed to the randomly selected CAOs.

After the initial mailing of the packets, collection of the data extended for two weeks. In order to attempt to increase the return rate, a cover letter explaining the reason for the study, along with the endorsement of the committee

chair was sent to each subject. A second mailing was made to non-respondents after the initial mailing period ended. Three weeks after the second mailing, the data collection process terminated.

Data Analysis

All data was analyzed using SPSS statistical package. SPSS was used for descriptive statistics, for causal-comparative statistics, and correlation statistics.

As stated earlier, ten more questions were added to the original twenty questions because latent factors having less than three indicator variables generally exhibit problems with identification and convergence. Because of these changes, internal consistency of the survey was measured. Once, the data was received, internal consistency for the ten scales was computed. Internal consistency methods including Cronbach's alpha and exploratory factor analysis were utilized to determine factorial internal validity of each scale.

After the internal consistency was computed, analysis of the data began. First, the data was analyzed with descriptive techniques. "Descriptive research…makes careful descriptions of educational phenomena" (Gall, Borg, & Gall, 1996, p. 374). The descriptive statistics described the means and standard deviations of the managerial roles, the environmental characteristics, the personal characteristics, and the situational characteristics.

Second, causal-comparative statistics was utilized. "Causal-comparative methods are the simplest quantitative approaches to exploring cause-and-affect relationships between phenomena. It involves a particular method of analyzing data to detect relationships between variables" (Gall, Borg, & Gall, 1996, p. 380). One particular method of causal-comparative statistics used in this is study was a Multivariate Analysis of Variance (MANOVA). The MANOVA revealed if there were statistical differences between scores of two or more groups regarding two or more dependent variables (Gall, Borg, & Gall, 1996). The MANOVA was utilized to compare: (1) managerial roles between environmental characteristics, (2) managerial roles between personal characteristics, and (3) managerial roles between situational characteristics. In all cases the managerial roles were the dependent variables and the environmental, personal, and situational variables were the independent variables.

Third, correlation statistics were used. "Correlation research . . . is used to discover relationships between variables through the use of correlation statistics" (Gall, Borg, & Gall, 1996, p. 409). A canonical correlation matrix was utilized. Canonical correlation is a type of multiple regression analysis involving the use of two or more measured variables to predict a composite index of several criterion variables (Gall, Borg, & Gall, 1996). Since, there are many variables being studied, the canonical correlation matrix is one of the best way to handle the problem. It was thought this technique would help answer three questions. First, what was the relationship that environmental characteristics (size, collective

bargaining, and region) have with managerial roles? Second, what relationship did personal characteristics (gender and age) have with managerial roles? Third, what relationship did situational characteristics (years in position, years at institution, and years of managerial experience) have with managerial roles? Once, causal-comparative statistics were performed on the data, then it was thought that it would be clearer how the correlation statistics should be performed. Again, the dependent variables were the managerial roles and the independent variables are the environmental, personal, and situational variables.

Summary

This study produced many findings. The most important findings were an identification of the managerial roles that CAOs perform at community colleges. A picture of the roles was created based on the findings. Mech (1997) found that CAOs at comprehensive I institutions were internally focused, they were trying to develop and maintain a smooth-running operation, and the complex nature of the organization forced the CAOs to be in direct consultation and cooperation with the faculty who are involved with the direct functions of the institution and the middle managers involved with the facilitating of those functions. Even though this is a picture of CAOs in comprehensive I institutions, findings for community college CAOs were similar.

It was thought that other findings would include differences between CAOs based on situational, environmental, and personal variables. Anticipated findings included differences between regions, span of control, and gender.

Relationship findings anticipated were span of control and CAO age with the managerial roles emphasized since that finding was reported in Mech's study (1997).

All findings should be beneficial to current and future CAOs as well as those on hiring committees. The most important result is the emphasis on which roles CAOs utilize most. This may help CAOs clarify their role and become more effective managers at community colleges, thus strengthening the community college movement across the nation.

CHAPTER IV

FINDINGS OF THE RESEARCH

Chapter IV is designed to inform readers concerning the research results of data collected from CAOs at community colleges. The topics covered in this section include: (1) internal consistency of the instrument; (2) review of the research questions; (3) sample population; (4) descriptive statistical results; (5) causal-comparative statistical results; (6) correlation statistical results; and (7) summary.

Internal Consistency of the Instrument

A managerial survey developed by Judson (1981) and modified by Mech (1997) was modified again for this research study. Judson (1981) used the instrument to study chief student affairs officers, while Mech (1997) modified the instrument and made it appropriate for studying CAOs at comprehensive I institutions.

The researcher agreed with the committee statistician to strengthen the instrument by adding ten more questions to the original twenty questions and performing two pilot studies. One pilot study enlisted the aid of ten higher education managers to ensure the content and constructs of the instrument questions were valid. They were given a copy of the instrument and were asked to decide which three of the thirty questions related to the managerial role they

were associated with. If the manager was unable to successfully pick which questions related to the managerial role, they were asked to give suggestions for revising the question to improve clarity.

Once, the survey was modified with the suggestions given by the managers who participated in the pilot study, a second pilot study was conducted with 30 CAOs in community colleges within Texas and Eastern New Mexico. The purpose of the second pilot study was to make sure the instrument had adequate internal consistency (reliability and factorial validity). This was important because in order to make valid conclusions based on a newly adapted instrument, the researcher had to confirm the instrument accurately measured what it claimed to measure (Gall, Borg, & Gall, 1996). Twenty of the thirty surveys were returned (66.7%). The reliability for the instrument was deemed low and so it was determined by the researcher and the committee statistician that another modification should be made to the managerial survey. The modification was to regroup the thirty questions by grouping each of the three related questions and placing the appropriate managerial role heading before each of the three related questions. Appendix E reveals the actual survey used in the study with the modifications. The resulting managerial survey demonstrated adequate overall reliability and internal validity as shown in Appendix F.

The internal consistency of the instrument as modified for this study was determined by using Cronbach's alpha (for reliability) and exploratory factor

analysis (for factorial validity). Cronbach's alpha was used since it measures the internal consistency of an instrument based on the extent to which participants who answer a question one way respond to other related questions the same way (Gall, Borg, & Gall, 1996). For education purposes, an alpha coefficient of 0.80 for the instrument is considered adequate (Vierra, Pollock, & Golez, 1992). Exploratory factor analysis is a statistical procedure that reduces a set of measured variables (the 30 questions) to a smaller number of variables (the ten managerial roles) by combining variables that are moderately or highly correlated with each other (Gall, Borg, & Gall, 1996). Ideally, the instrument should display the 30 questions loading onto 10 factors (managerial roles).

The total instrument (30 items) displayed an alpha coefficient of 0.89 for 177 valid responses, which is an acceptable value for reliability of the instrument (Vierra, Pollock, & Golez, 1992). The alpha coefficient for each subscale item (managerial role) was 0.85 for the three questions relating to Figurehead, 0.58 for Leader, 0.54 for Liaison, 0.66 for Monitor, 0.77 for Disseminator, 0.77 for Spokesperson, 0.69 for Entrepreneur, 0.81 for Disturbance Handler, 0.64 for Resource Allocator, and 0.74 for Negotiator. If we had added more questions to the survey, it is possible the subscales would have yielded higher coefficients. Even though the item analysis showed low reliability coefficients, the researcher still felt confident with the results of the research since in the first pilot study, the managers verified these questions as being appropriate for the study. In creating a new survey or modifying one, sometimes it is difficult to

measure an item variable reliably and so a coefficient less than 0.80 can be acceptable (Vierra, Pollock, & Golez, 1992).

To show evidence of factorial validity, exploratory factor analysis was performed. Exploratory factor analysis revealed that all 30 questions concerning the managerial roles loaded onto nine independent factors. A correlation matrix of the ten roles revealed all are interdependent (correlate) with at least one other management role. Appendix F shows and explains the tables revealing the exploratory factor analysis and the correlation matrix.

Mintzberg's Typology requires three assumptions. These assumptions are: (1) all ten-management roles are required to some degree by all managers, (2) each management role is interdependent with at least one other management role, and (3) adjacent managerial roles form a directional linear pattern from interpersonal to informational to decisional. The first two assumptions were met with the survey study. In order to verify the first assumption, the researcher computed averages for each of the ten roles. After the analysis, the researcher discovered that on average, all ten-management roles were used by CAOs at community colleges. In order to verify the second assumption, the researcher created a 10 x 10 matrix showing correlations between the ten managerial roles. The matrix (Appendix F) revealed all ten managerial roles correlated with at least one other managerial role. This study did not assume CAOs performed any of the ten roles and therefore did not attempt to ask CAOs to answer which directional order CAOs performed the managerial roles. Instead, the researcher wished to

focus attention on which roles are used and which are most emphasized. Thus, the third assumption was not necessary for this research.

In conclusion, the survey demonstrated adequate internal consistency and it verified two out of the three assumptions Mintzberg claimed concerning the managerial roles.

Research Questions

This research answered the following five general questions.

1. What are the managerial roles of CAOs at community colleges?
2. What managerial roles do CAOs at community colleges emphasize?
3. Are there differences in the roles CAOs emphasize because of environmental characteristics (span of control, collective bargaining, and region)?
4. Are there differences in the roles CAOs emphasize because of personal characteristics (gender and age)?
5. Are there differences in the roles CAOs emphasize because of situational characteristics (years of managerial experience, years in position, and years at institution)?

Sample Population

The sample population came from CAOs at community colleges across the United States. The sample population was selected using a stratified random sampling procedure. The stratification came from six accreditation

regions: (1) North Central Association of Schools and Colleges (NCASC), (2) Middle States Association of Schools and Colleges (MASAC), (3) New England Association of Schools and Colleges (NEASC), (4) Northwest Association of Schools and Colleges (NASAC), (5) Southern Association of Schools and Colleges (SASAC), and (6) Western Association of Schools and Colleges (WASC). The stratification was completed by calculating how many subjects should be taken from each region based on the size of the population within each region (Figure 3.1 in Chapter III). Then, colleges were selected randomly from the sampling frame (Appendix D). This process ensured an unbiased random sample representative of all community colleges in the United States. Surveys were sent to 250 CAOs. A total of 184 (73.6%) surveys were returned with 177 complete.

Tables 4.1- 4.9 provide demographic data on variables in three categories: environmental, personal, and situational variables. The environmental (characteristics of the organization) variables studied were span of control (number of employees directly supervised), collective bargaining (faculty union), and region (separated by six accrediting agencies). The personal variables studied were age and gender. The three situational variables studied were managerial experience, years at institution, and years in position.

Environmental (Characteristics of the Organizations)

Span of Control

Table 4.1 reveals the number of individuals that report directly to CAOs. Included in the table is the range of individuals that report directly to the CAO denoted by maximum and minimum, the mean score for the number of individuals that report directly to the CAO as well as the median score, and the standard deviation for the scores.

Table 4.1: Span of Control

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	3	100	14.9	10.0	19.95
MASAC	19	4	30	13.0	9.0	8.94
NEASC	10	4	17	8.7	8.0	3.80
NASAC	14	4	160	18.7	8.5	40.76
SASAC	54	3	260	14.8	9.0	34.39
WASC	32	3	49	9.6	8.0	7.74
Total	184	3	260	13.7	9.0	24.57

Table 4.1 shows the CAOs in this study have an average of 13.7 individuals reporting directly to them. The median for span of control is 9 individuals with the highest percentage (77%) of respondents reporting between 5 and 12 individuals reporting directly to them. At least one CAO has three people reporting directly while at least one CAO has 260 people reporting directly.

CAOs in the North Central Association of Schools and Colleges (NCASC) have an average of 14.9 individuals reporting directly to them. The median was 10. At least one CAO has three people reporting directly while at least one CAO has 100 people reporting directly.

CAOs in the Middle States Association of Schools and Colleges (MASAC) have an average of 13.0 individuals reporting directly to them. The median was 8. At least one CAO has four people reporting directly while at least one CAO has 30 people reporting directly.

CAOs in the New England Association of Schools and Colleges (NEASC) have an average of 8.7 individuals reporting directly to them. The median was 8. At least one CAO has four people reporting directly while at least one CAO has 17 people reporting directly.

CAOs in the Northwest Association of Schools and Colleges (NASAC) have an average of 18.7 individuals reporting directly to them. The median was 8.5. At least one CAO has four people reporting directly while at least one CAO has 160 people reporting directly.

CAOs in the Southern Association of Schools and Colleges (SASAC) have an average of 14.8 individuals reporting directly to them. The median was 9. At least one CAO has three people reporting directly while at least one CAO has 260 people reporting directly.

CAOs in the Western Association of Schools and Colleges (WASC) have an average of 9.6 individuals reporting directly to them. The median was 8. At least one CAO has three people reporting directly while at least one CAO has 49 people reporting directly.

Analysis of Variance (ANOVA) was used to test for statistical differences for span of control by the six different regions. No differences were discovered.

Collective Bargaining

Of the 184 institutions responding, 102 (55.4%) have collective bargaining agreements, and 82 (44.6%) do not have collective bargaining agreements.

Table 4.2 reveals the percentages of collective bargaining versus non-collective bargaining institutions within each of the six accrediting regions.

Table 4.2: Percentage of Collective Bargaining Institutions

	Collective	Bargaining	
Region	No	Yes	Total
(1) NCASC	18 (32.7%)	37 (67.3%)	55
(2) MASAC	7 (36.8%)	12 (63.2%)	19
(3) NEASC	1 (10.0%)	9 (90.0%)	10
(4) NASAC	3 (21.4%)	11 (78.8%)	14
(5) SASAC	51 (94.4%)	3 (5.6%)	54
(6) WASC	2 (6.3%)	30 (93.8%)	32
Total	82 (44.6%)	102 (55.4%)	184

In five of the six regions, over 50% of the colleges have collective bargaining agreements. With 93.7%, the Western Association of Schools and Colleges (WASC) have the highest percentage of institutions represented by collective bargaining.

Regions for Institutions

Table 4.3 shows where the respondents came from. The table shows the number of respondents (frequency) who completed the survey and sent it back to the researcher and the percentage that each of the six regions represent in the study.

Table 4.3: Regions

Region	Frequency	Percent
(1) NCASC	55	29.9
(2) MASAC	19	10.3
(3) NEASC	10	5.4
(4) NASAC	14	7.6
(5) SASAC	54	29.3
(6) WASC	32	17.5
Total	184	100.0

Table 4.3 shows the majority of respondents came from the North Central Association of Schools and Colleges (NCASC). The next largest percentage of respondents came from the Southern Association of Schools and Colleges (SASAC). The third largest region was the Western Association of Schools and Colleges (WASC). The fourth region was the Middle States Association of Schools and Colleges (NEASC). The fifth region was the Northwestern Association of Schools and Colleges (NASAC). The smallest percentage of respondents came from the New England Association of Schools and Colleges (NEASC). These results mirrored the sampling frame found in Figure 3.1 (Chapter III).

Personal (Characteristics of the Person)

Gender

Table 4.4 reveals the gender of respondents from the United States as well as the gender of respondents from each accreditation region.

Table 4.4: Gender

Region	Male	Female
NCASC	34 (61.8%)	21 (38.2%)
MASAC	13 (68.4%)	6 (31.6%)
NEASC	7 (70.0%)	3 (30.0%)
NASAC	7 (50.0%)	7 (50.0%)
SASAC	32 (59.3%)	22 (40.7%)
WASC	16 (50.0%)	16 (50.0%)
TOTAL	109 (59.2%)	75 (40.8%)

Table 4.4 shows the majority of respondents were male (59.2%). Female respondents represented 40.8% of the total respondents.

The majority of respondents from North Central Association of Schools and Colleges (NCASC) were male. Female respondents represented 38.2% of the total respondents. The majority of respondents from Middle States Association of Schools and Colleges (MASAC) were male. Female respondents represented 31.6% of the total respondents. The majority of respondents from New England Association of Schools and Colleges (NEASC) were male. Female respondents represented 30.0% of the total. The male and female respondents from Northwest Association of Schools and Colleges (NASAC) were exactly the same. This was one of two regions with the same percentage of male and female CAOs.

The majority of respondents from Southern Association of Schools and Colleges (SASAC) were male. Female respondents represented 40.7% of the total respondents. The male and female respondents from the Western Association of Schools and Colleges (WASC) were the same. This is the second region that had the same percentage of male and female CAOs.

Age

Table 4.5 gives the mean age of respondents. Included in the table are the numbers of subjects, the range denoted by minimum and maximum, the median, and the standard deviation of the ages.

Table 4.5: Age

Region	N	Min	Max	Mean	Mdn	S.D.
NCASC	55	29	61	51.8	53	6.06
MASAC	19	33	65	51.7	53	8.23
NEASC	10	45	59	54.5	55	4.86
NASAC	14	39	57	51.4	52	4.60
SASAC	54	30	65	52.7	54	7.71
WASC	32	38	61	53.8	55	4.91
Total	184	29	65	52.5	53	6.51

Table 4.5 shows the average age of respondents was 52.5. The minimum age was 29 and the maximum age 65. The median age was 53. The mode of respondents' age was 55 with the majority of respondents being over 53 years of age.

The average age of respondents from North Central Association of Schools and Colleges (NCASC) was 51.8. The minimum age was 29 and the maximum age 61. The average age of respondents from Middle States Association of Schools and Colleges (MASAC) was 51.7. The minimum age was 33 and the maximum age 65. The average age of respondents from New England Association of Schools and Colleges (NEASC) was 54.5. The minimum age was 45 and the maximum age 59.The average age of respondents from Northwest Association of

Schools and Colleges (NASAC) was 51.4. The minimum age was 39 and the maximum age 57. The average age of respondents from Southern Association of Schools and Colleges (SASAC) was 52.7. The minimum age was 30 and the maximum age 65. The average age of respondents from Western Association of Schools and Colleges (WASC) was 53.8. The minimum age was 38 and the maximum age 61.

Analysis of Variance (ANOVA) was performed to test for any statistical differences between the regions by the age of CAOs. The test showed no statistical differences between the regions for age.

Situation (Characteristics of the Temporal Features)

Managerial Experience

Table 4.6 reveals the managerial experience of the CAOs. The table reveals the managerial experience of CAOs across the nation and the managerial experience of CAOs within each of the six-accreditation regions.

Table 4.6: Years of Managerial Experience

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	3	37	17.4	18.0	7.47
MASAC	19	2	29	13.7	13.0	6.98
NEASC	10	3	33	15.3	14.0	9.06
NASAC	14	11	27	17.5	16.0	5.73
SASAC	54	2	32	16.2	15.0	7.69
WASC	32	2	36	16.5	15.0	7.66
Total	184	2	37	16.4	15.5	7.48

Table 4.6 shows the average years of managerial experience the respondents have is 16.4 years. The median is 15.5 years. At least one respondent reported two years experience and at least one respondent indicated 37 years of managerial experience.

The average years of managerial experience that the respondents had from North Central Association of Schools and Colleges (NCASC) was 17.4 years. At least one respondent reported three years experience and at least one respondent indicated 37 years of managerial experience. The average years of managerial experience that the respondents from Middle States Association of Schools and Colleges (MASAC) had was 13.7 years. At least one respondent reported two years experience and at least one respondent indicated 29 years of managerial experience. The average years of managerial experience that the respondents from New England Association of Schools and Colleges (NEASC) had was 15.3 years. At least one respondent reported three years experience and at least one respondent indicated 33 years of managerial experience. The average years of managerial experience that the respondents from Northwest Association of Schools and Colleges (NASAC) had was 17.5 years. At least one respondent reported 11 years experience and at least one respondent indicated 27 years of managerial experience.

The average years of managerial experience that the respondents from Southern Association of Schools and Colleges (SASAC) had was 16.2 years. At least one respondent reported two years experience and at least one respondent

indicated 32 years of managerial experience. The average years of managerial experience that the respondents from Western Association of Schools and Colleges (WASC) had was 16.5 years. At least one respondent reported two years experience and at least one respondent indicated 36 years of managerial experience.

Analysis of Variance (ANOVA) did not show any statistical differences between years of managerial experience by the regions.

Years at Current Institution

Table 4.7 reveals the number of years that CAOs in the sample have worked at their current institution. The table gives the number of respondents, the range of years worked denoted by minimum and maximum, the mean, the median of years worked at the current institution, and the standard deviation.

Table 4.7: Years at Current Institution

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	1	34	11.3	8.0	10.50
MASAC	19	1	32	14.1	15.0	9.58
NEASC	10	1	30	16.2	17.5	11.72
NASAC	14	3	32	9.8	7.5	8.23
SASAC	54	1	36	15.9	17.0	12.09
WASC	32	1	31	13.5	10.0	10.46
Total	184	1	36	13.5	10.0	10.89

Table 4.7 shows respondents have been at their current institution an average of 13.5 years. The median time spent at the same institution is 10 years. At least one respondent reported this year as the first year at the institution and at least one respondent indicated 36 years at the same institution.

Respondents from North Central Association of Schools and Colleges (NCASC) have been at their current institution an average of 11.3 years. At least one respondent reported this year as the first year at the institution and at least one respondent indicated 34 years at the same institution. Respondents from Middle States Association of Schools and Colleges (MASAC) have been at their current institution an average of 14.1 years. At least one respondent reported this year as the first year at the institution and at least one respondent indicated 32 years at the same institution. Respondents from New England Association of Schools and Colleges (NEASC) have been at their current institution an average of 16.2 years. At least one respondent reported this year as the first year at the institution and at least one respondent indicated 30 years at the same institution.

Respondents from Northwest Association of Schools and Colleges (NASAC) have been at their current institution an average of 9.8 years. At least one respondent reported three years at the same institution and at least one respondent indicated 32 years at the same institution. Respondents from Southern Association of Schools and Colleges (SASAC) have been at their current institution an average of 15.9 years. At least one respondent reported this year as the first year at the institution and at least one respondent indicated 36 years at the same institution. Respondents from Western Association of Schools and Colleges (WASC) have been at their current institution an average of 13.5 years. At least one responder reported this year as the first year at the institution and at least one respondent indicated 31 years at the same institution.

Analysis of Variance (ANOVA) did not show any statistical differences between the regions by years of managerial experience.

Years in Current Position

Table 4.8 shows the number of years that the sample CAOs have been in their current position. Included in the table are the numbers of subjects, the range denoted by minimum and maximum, the mean, the median, and the standard deviation.

Table 4.8: Years in Current Position

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	1	17	5.0	3.0	4.26
MASAC	19	1	18	5.1	4.0	4.42
NEASC	10	1	25	5.5	3.0	7.37
NASAC	14	3	12	5.9	5.0	2.87
SASAC	54	1	20	5.7	3.5	5.16
WASC	32	1	20	5.3	3.5	4.59
Total	184	1	25	5.4	4.0	4.68

Table 4.8 shows that respondents have been in their current position an average of 5.4 years. The median was 4 years. The mode was 1 year. At least one respondent has been in the position one year and at least one respondent has been in the position for 25 years.

Respondents from North Central Association of Schools and Colleges (NCASC) have been in their current position an average of 5.0 years. At least one respondent has been in the position one year and at least one respondent has been

in the position for an average of 17 years. Respondents from Middle States Association of Schools and Colleges (MASAC) have been in their current position an average of 5.1 years. At least one respondent has been in the position one year and at least one respondent has been in the position for an average of 18 years. Respondents from New England Association of Schools and Colleges (NEASC) have been in their current position an average of 5.5 years. At least one respondent has been in the position one year and at least one respondent has been in the position for 25 years.

Respondents from Northwest Association of Schools and Colleges (NASAC) have been in their current position an average of 5.9 years. At least one respondent has been in the position three years and at least one respondent has been in the position for 12 years. Respondents in Southern Association of Schools and Colleges (SASAC) have been in their current position an average of 5.7 years. At least one respondent has been in the position one year and at least one respondent has been in the position for 20 years. Respondents from Western Association of Schools and Colleges (WASC) have been in their current position an average of 5.3 years. At least one respondent has been in the position one year and at least one respondent has been in the position for 20 years.

Analysis of Variance (ANOVA) was performed on the data; however, no statistical differences were found between years in current position and region.

Satisfaction and Role Ambiguity

Satisfaction

Table 4.9 reveals the satisfaction of CAOs from the United States and from each of the six-accreditation regions. Included in the table are numbers of subjects, the range denoted by minimum and maximum, the mean, the median, and the standard deviation. The scale used for satisfaction (and role ambiguity) was (1) no satisfaction, (2) a little satisfaction, (3) some satisfaction, and (4) a lot of satisfaction.

Table 4.9: Satisfaction

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	2	4	3.8	4.0	.42
MASAC	19	3	4	3.8	4.0	.37
NEASC	10	3	4	3.6	4.0	.52
NASAC	14	3	4	3.6	4.0	.50
SASAC	54	1	4	3.8	4.0	.61
WASC	32	3	4	3.8	4.0	.44
Total	184	1	4	3.8	4.0	.49

Table 4.9 indicates that CAOs are satisfied with their positions. At least one respondent in SASAC indicated no satisfaction from the position. At least one respondent from NCASC indicated a little satisfaction from the position.

Analysis of Variance (ANOVA) was performed with no statistical differences discovered between accrediting regions and satisfaction.

Role Ambiguity

Table 4.10 shows the level of role ambiguity the CAO respondents indicated. Included in the table are numbers of subjects, the range denoted by minimum and maximum, the mean, the median, and the standard deviation

Table 4.10: Role Ambiguity

Region	N	Min	Max	Mean	Mdn	S. D.
NCASC	55	1	4	2.8	3	1.00
MASAC	19	1	4	2.5	2	0.90
NEASC	10	1	4	2.8	3	0.92
NASAC	14	2	4	2.8	3	0.70
SASAC	54	1	4	2.6	3	0.68
WASC	32	1	4	2.8	3	0.77
Total	184	1	4	2.7	3	0.84

Table 4.10 indicates respondents have experienced some role ambiguity from their academic position. At least one respondent said they did not have any role ambiguity from the position and at least one respondent indicated a lot of role ambiguity from the position.

Analysis of Variance (ANOVA) was performed with no statistical differences for role ambiguity between regions and role ambiguity.

From the previous tables it appears that CAOs are satisfied with the position and experience similar amounts of role ambiguity.

Descriptive Statistics

Managerial Roles of CAOs

The following tables show the descriptive statistics for the managerial roles that CAOs perform based on the managerial survey (see Appendix E). The five questions of the research study are answered in the following sections. The synopsis of the findings is that all ten managerial roles are used by CAOs at community colleges. The three most emphasized managerial roles are leader, liaison, and disseminator. However, some variations in rank of managerial roles occur based on the environmental, personal, and situational variables.

Included are the tables showing managerial roles based on the environmental (span, collective bargaining, and region) inputs, the personal (age and gender) inputs, and the situational (years of managerial experience, years at current institution, and years in current position) inputs. The scale used in the survey for the managerial roles was: not used at all (3), a little (6), some (9), and a lot (12).

Managerial Roles Based On Environmental Characteristics

Span of Control

Table 4.11 shows the managerial roles of CAOs based on span of control. Span of control is defined to be the number of individuals reporting directly to the

CAO. Span of control was split into three groups: (1 to 10 individuals), (11 to 20 individuals), and (over 20 individuals). The table shows the number of subjects in each group. The means were computed for each of the ten managerial roles.

Table 4.11: Managerial Roles Based on Span of Control

Managerial Roles	Level N=	1 to 10 (125)	11 to 20 (43)	Over 20 (16)
Figurehead		9.2	9.4	9.4
Leader		11.4	11.2	11.5
Liaison		11.1	10.9	11.3
Monitor		10.9	10.8	10.8
Disseminator		11.2	10.8	10.9
Spokesperson		9.8	10.2	10.1
Entrepreneur		10.2	10.7	10.5
Disturbance Handler		9.6	9.4	9.2
Resource Allocator		10.4	10.3	10.4
Negotiator		9.3	9.4	8.9

Table 4.11 shows the Leader role is the most emphasized role for CAOs within all levels of span of control. CAOs with small spans of control indicate the Disseminator role is the second most used role, while CAOs with medium and large spans of control report the Liaison role as being the second most used role. The third most used role for small span of control CAOs is the Disseminator role, while medium span of control CAOs report the Monitor and Disseminator role as being the third most used roles. Large span of control CAOs report the Disseminator role as the third most emphasized role. CAOs from all three levels of span of control report the same three most emphasized roles. The least emphasized role for small and medium span of control CAOs is the role

of the Figurehead. The least emphasized role for large span of control CAOs is the role of Negotiator. Negotiator was the ninth emphasized role for small and medium span of control CAOs while Disturbance Handler was the ninth emphasized role for large span CAOs. The Figurehead role was the eighth emphasized role for large span CAOs. In all three cases the role of Monitor was either in the third or fourth position.

Region

Table 4.12 to Table 4.18 reveals the managerial roles of CAOs based on the accreditation regions in which CAOs practice. Included in the tables are the roles in rank descending order. Also, included are the range denoted by minimum and maximum and the standard deviation. The first table gives the rank of managerial roles for the whole nation. The remaining tables give the ranks of the managerial roles for the six-accreditation regions.

Table 4.12: Managerial Roles of CAOs for the United States

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.4	1.06
Liaison	7	12	11.1	1.06
Disseminator	6	12	11.1	1.25
Monitor	6	12	10.9	1.24
Resource Allocator	5	12	10.4	1.49
Entrepreneur	4	12	10.3	1.53
Spokesperson	3	12	9.9	1.58
Disturbance Handler	3	12	9.5	1.96
Negotiator	5	12	9.3	1.85
Figurehead	3	12	9.2	2.03

Table 4.12 shows the respondents use all ten managerial roles some (9) to a lot (12) of the time. Respondents indicated that the Leader role is used most often, followed by Liaison and Disseminator roles. The Monitor, Resource Allocator, and Entrepreneur roles are the next most used roles. The least used roles are Spokesperson, Disturbance Handler, Negotiator, and Figurehead. At least one respondent indicated the Spokesperson, the Disturbance Handler, and the Figurehead roles were not used at all. The table indicates all ten roles are used a lot by at least one respondent.

Table 4.13: Managerial Roles of CAOs for NCASC

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.29	1.24
Liaison	8	12	11.00	1.07
Disseminator	7	12	10.96	1.23
Monitor	8	12	10.94	1.04
Entrepreneur	7	12	10.41	1.45
Resource Allocator	7	12	10.35	1.54
Spokesperson	6	12	10.23	1.55
Figurehead	6	12	9.49	1.79
Disturbance Handler	6	12	9.35	1.99
Negotiator	6	12	9.29	1.91

Table 4.13 shows all ten managerial roles are used some to a lot by the 55 respondents in the North Central Association of Schools and Colleges (NCASC). Respondents indicated the Leader role is used most often, followed by Liaison and Disseminator. The Monitor, Entrepreneur, and Resource Allocator roles are the next most used roles. The least used roles are Spokesperson, Figurehead, Disturbance Handler, and Negotiator. No respondents indicated that any of the ten roles were not used. At least one respondent indicated that all ten roles were used a lot.

Table 4.14: Managerial Roles of CAOs for MASAC

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.37	1.16
Liaison	9	12	11.16	1.17
Disseminator	8	12	10.89	1.45
Monitor	7	12	10.63	1.61
Resource Allocator	7	12	10.26	1.48
Entrepreneur	8	12	10.05	0.97
Spokesperson	6	12	9.68	1.87
Figurehead	6	12	9.47	1.87
Disturbance Handler	7	12	9.21	1.58
Negotiator	7	12	9.21	1.58

Table 4.14 shows all ten managerial roles are used some to a lot by the 19 respondents in the Middle States Association of Schools and Colleges (MASAC). Respondents indicated the Leader role and Liaison role are used most often, followed by Disseminator. The Monitor, Resource Allocator, Entrepreneur, and Spokesperson roles are the next most used roles. The least used roles are Figurehead, Disturbance Handler, and Negotiator. No respondents indicated that any of the ten roles were not used. At least one respondent indicated all ten roles were used a lot.

Table 4.15: Managerial Roles of CAOs for NEASC

Roles	Min	Max	Mean	S. D.
Leader	10	12	11.80	0.63
Liaison	10	12	11.00	0.82
Disseminator	8	12	10.89	1.45
Monitor	8	12	10.40	1.35
Entrepreneur	8	12	10.00	1.25
Resource Allocator	8	12	9.90	1.10
Spokesperson	8	11	9.40	1.07
Figurehead	6	12	9.10	1.97
Disturbance Handler	6	12	8.90	1.73
Negotiator	6	11	8.80	1.48

Table 4.15 shows all ten managerial roles are used a little to a lot by the 10 respondents in the New England Association of Schools and Colleges (NEASC). Respondents indicated the Leader role is used most often, followed by the Liaison, the Disseminator and the Monitor roles. The Entrepreneur, the Resource Allocator and the Spokesperson roles are the next most used roles. The least used roles are Figurehead, Disturbance Handler, and Negotiator. No respondents indicated that any of the ten roles were not used (3). The respondents indicated the roles Spokesperson and Negotiator were not used a lot.

Table 4.16: Managerial Roles of CAOs for NASAC

Roles	Min	Max	Mean	S. D.
Leader	10	12	11.64	0.63
Disseminator	9	12	11.43	1.02
Liaison	10	12	11.21	0.97
Monitor	9	12	10.79	1.12
Entrepreneur	7	12	10.43	1.91
Resource Allocator	6	12	10.39	1.62
Disturbance Handler	8	12	9.86	1.83
Spokesperson	8	12	9.71	1.33
Figurehead	4	12	9.36	2.34
Negotiator	6	12	8.79	1.53

Table 4.16 shows all ten managerial roles are used a little to a lot by the 14 respondents in the Northwest Association of Schools and Colleges (NASAC). Respondents indicated the Leader role is used most often, followed by the Disseminator, the Liaison, and the Monitor roles. The Entrepreneur, the Resource Allocator, and the Disturbance Handler roles are the next most used roles. The least used roles are Spokesperson, Figurehead, and Negotiator. No respondents indicated any of the ten roles were not used.

Table 4.17: Managerial Roles of CAOs for SASAC

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.45	1.03
Disseminator	8	12	11.28	1.00
Liaison	8	12	11.21	0.95
Monitor	8	12	11.02	0.98
Entrepreneur	4	12	10.35	1.64
Resource Allocator	5	12	10.33	1.70
Spokesperson	7	12	10.00	1.45
Disturbance Handler	3	12	9.54	2.20
Figurehead	4	12	9.32	1.99
Negotiator	6	12	9.27	1.91

Table 4.17 shows all ten managerial roles are used some to a lot by the 54 respondents in the Southern Association of Schools and Colleges (SASAC). Respondents indicated the Leader role is used most often, followed by the Disseminator, the Liaison, and the Monitor roles. The Entrepreneur, the Resource Allocator, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Figurehead, and Negotiator. At least one respondent indicated the Disturbance Handler role is not used. At least one respondent indicated all the roles are used a lot.

Table 4.18: Managerial Roles of CAOs for WASC

Roles	Min	Max	Mean	S. D.
Leader	8	12	11.25	0.95
Liaison	7	12	10.97	1.28
Disseminator	6	12	10.94	1.56
Monitor	6	12	10.69	1.67
Resource Allocator	9	12	10.59	1.10
Entrepreneur	5	12	10.28	1.73
Disturbance Handler	5	12	9.97	1.80
Spokesperson	3	12	9.78	2.00
Figurehead	5	12	9.61	1.76
Negotiator	5	12	9.56	1.76
Figurehead	3	12	8.53	2.38

Table 4.18 shows all ten managerial roles are used a little to a lot by the 32 respondents in the Western Association of Schools and Colleges (WASC). Respondents indicated that the Leader role is used most often, followed by the Liaison, the Disseminator, and the Monitor roles. The Resource Allocator, the Entrepreneur, and the Disturbance Handler roles are the next most used roles. The least used roles are Spokesperson, Negotiator, and Figurehead. At least one respondent indicated that the Spokesperson and Figurehead roles are not used. At least one respondent indicated all the roles are used a lot.

Collective Bargaining

Table 4.19 and Table 4.20 reveal the emphasized managerial roles of CAOs at collective bargaining institutions and non-collective bargaining institutions respectively. The first table shows the managerial roles in descending

rank order for institutions with collective bargaining. The second table gives the same information with institutions that do not have collective bargaining units. Included with each table are the range of responses denoted by maximum and minimum, the mean, and the standard deviation.

Table 4.19: Managerial Roles of CAOs for Collective Bargaining Institutions

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.34	1.12
Liaison	7	12	10.96	1.12
Disseminator	6	12	10.95	1.38
Monitor	6	12	10.71	1.40
Resource Allocator	6	12	10.38	1.42
Entrepreneur	5	12	10.17	1.53
Spokesperson	3	12	9.83	1.65
Disturbance Handler	5	12	9.62	1.86
Negotiator	5	12	9.30	1.77
Figurehead	3	12	9.11	2.05

Table 4.19 shows all ten managerial roles are used some to a lot by the 102 respondents from collective bargaining institutions. Respondents indicated that the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Monitor role. The Resource Allocator, the Entrepreneur role, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Negotiator, and Figurehead. At least one respondent indicated that the Figurehead role and Spokesperson role is not used. At least one respondent indicated all the roles are used a lot.

Table 4.20: Managerial Roles of CAOs for Non-Collective Bargaining Institutions

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.46	0.98
Liaison	8	12	11.25	0.97
Disseminator	8	12	11.23	1.05
Monitor	8	12	11.04	0.97
Entrepreneur	4	12	10.49	1.53
Resource Allocator	5	12	10.33	1.59
Spokesperson	7	12	10.08	1.49
Figurehead	4	12	9.41	2.00
Disturbance Handler	3	12	9.38	2.08
Negotiator	5	12	9.21	1.96

Table 4.20 shows all ten managerial roles are used some to a lot by the 82 respondents from non-collective bargaining institutions. Respondents indicated that the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Monitor role. The Entrepreneur, the Resource Allocator, and the Spokesperson roles are the next most used roles. The least used roles are Figurehead, Disturbance Handler, and Negotiator. At least one respondent indicated the Disturbance Handler role is not used. At least one respondent indicated all the roles are used a lot.

Managerial Roles Based On Personal Characteristics

Gender

Table 4.21 and Table 4.22 show the emphasized managerial roles of CAOs based on gender. The first table gives the rank order of managerial roles in descending order of the male respondents. The second table gives the same information with the female respondents. Included with the tables are the range denoted by minimum and maximum, mean, and standard deviation.

Table 4.21: Managerial Roles for Males

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.18	1.18
Liaison	7	12	10.89	1.11
Disseminator	6	12	10.86	1.36
Monitor	7	12	10.73	1.26
Resource Allocator	5	12	10.26	1.55
Entrepreneur	4	12	10.17	1.60
Spokesperson	3	12	9.92	1.62
Disturbance Handler	5	12	9.48	1.85
Negotiator	6	12	9.22	1.94
Figurehead	4	12	9.10	1.81

Table 4.21 shows all ten managerial roles are used some to a lot by the 109 male respondents. Respondents indicated that the Leader role is used most often, followed by the Liaison, the Disseminator, and the Monitor roles. The Resource Allocator, the Entrepreneur, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Negotiator, and

Figurehead. At least one respondent indicated that the Spokesperson role is not used. At least one respondent indicated all the roles are used a lot.

Table 4.22: Managerial Roles for Females

Roles	Min	Max	Mean	S. D.
Leader	7	12	11.71	0.75
Disseminator	9	12	11.39	1.00
Liaison	9	12	11.37	0.93
Monitor	6	12	11.03	1.20
Entrepreneur	7	12	10.51	1.42
Resource Allocator	6	12	10.49	1.41
Spokesperson	6	12	9.98	1.53
Disturbance Handler	3	12	9.56	2.13
Figurehead	3	12	9.45	2.30
Negotiator	5	12	9.32	1.73

Table 4.22 shows all ten managerial roles are used some to a lot by the 75 female respondents. Respondents indicated that the Leader role is used most often, followed by the Disseminator role, the Liaison role, and the Monitor role. The Entrepreneur, the Resource Allocator, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Figurehead, and Negotiator. At least one respondent indicated that the Figurehead role and Disturbance Handler role are not used. At least one respondent indicated all the roles are used a lot.

Age

Table 4.23 to Table 4.25 shows the managerial roles based on age levels of the CAOs. Age was split into three levels: (29 to 40), (41 to 55), and (56 to 65). The first table gives the rank order of managerial roles in descending order. The second and third tables give the same results for there respective levels. Included in the table are the range denoted by maximum and minimum, the mean, and the standard deviation.

Table 4.23: Managerial Roles for Age (29 to 40)

Managerial Roles	N	Mean	Standard Deviation
Leader	11	11.23	0.93
Liaison	11	10.68	1.10
Disseminator	11	10.64	1.43
Resource Allocator	11	10.32	1.38
Monitor	11	10.00	1.55
Entrepreneur	11	9.73	1.90
Spokesperson	11	9.27	2.20
Figurehead	11	9.23	2.25
Negotiator	11	9.05	1.90
Disturbance Handler	11	8.82	2.68

Table 4.23 reveals the 11 respondents who are between the ages of 29 to 40 use all ten managerial roles some to a lot. Respondents indicated the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Resource Allocator role. The Monitor, the Entrepreneur, and the Spokesperson roles are the next most used roles. The least used roles are Figurehead, Negotiator, and Disturbance Handler.

Table 4.24: Managerial Roles for Age (41 to 55)

Managerial Roles	N	Mean	Standard Deviation
Leader	92	11.37	1.13
Liaison	92	11.09	1.12
Disseminator	92	11.05	1.23
Monitor	92	10.85	1.19
Entrepreneur	92	10.42	1.54
Resource Allocator	92	10.21	1.63
Spokesperson	92	9.99	1.52
Disturbance Handler	92	9.67	1.98
Negotiator	92	9.41	1.92
Figurehead	92	9.17	2.16

Table 4.24 reveals the 92 respondents who are between the ages of 41 to 55 use all ten managerial roles some to a lot. Respondents indicated the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Monitor role. The Entrepreneur, the Resource Allocator, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Negotiator, and Figurehead.

Table 4.25: Managerial Roles for Age (56 to 65)

Managerial Roles	N	Mean	Standard Deviation
Leader	81	11.44	1.00
Disseminator	81	11.16	1.24
Liaison	81	11.15	0.99
Monitor	81	10.98	1.22
Resource Allocator	81	10.53	1.34
Entrepreneur	81	10.27	1.47
Spokesperson	81	9.98	1.57
Disturbance Handler	81	9.42	1.82
Figurehead	81	9.35	1.85
Negotiator	81	9.12	1.78

Table 4.25 reveals the 81 respondents who are between the ages of 56 to 65 used all ten managerial roles some to a lot. Respondents indicated the Leader role is used most often, followed by the Disseminator role, the Liaison role, and the Monitor role. The Resource Allocator, the Entrepreneur, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Figurehead, and Negotiator.

Managerial Roles Based On Situational Characteristics

Years in Position

Table 4.26 to Table 4.28 show the managerial roles of CAOs based on years of experience in the current CAO position. CAOs were placed into three levels of years in their current position: (1 to 3 years), (4 to 8 years), and (over 8 years). The first table gives the managerial roles in descending rank order for CAOs who have been in their current role from 1 to 3 years. The second and third tables give similar results for those who have been in the position from 4 to 8 years and over 8 years, respectively.

Table 4.26: Managerial Roles for Years in Position (1 to 3 years)

Managerial Roles	N	Mean	Standard Deviation
Leader	89	11.44	0.98
Liaison	89	11.13	1.08
Disseminator	89	11.11	1.32
Monitor	89	10.76	1.32
Resource Allocator	89	10.38	1.60
Entrepreneur	89	10.33	1.58
Spokesperson	89	9.90	1.77
Disturbance Handler	89	9.61	2.07
Negotiator	89	9.29	1.80
Figurehead	89	9.04	2.18

Table 4.26 reveals all ten managerial roles are used some to a lot by the respondents in level (1 to 3 years). Respondents indicated the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Monitor role. The Resource Allocator, the Entrepreneur, and the Spokesperson roles are

the next most used roles. The least used roles are Disturbance Handler, Negotiator, and Figurehead.

Table 4.27: Managerial Roles for Years in Position (4 to 8 years)

Managerial Roles	N	Mean	Standard Deviation
Leader	52	11.37	1.22
Liaison	52	11.23	0.90
Disseminator	52	11.10	1.21
Monitor	52	11.04	1.22
Resource Allocator	52	10.39	1.25
Entrepreneur	52	10.35	1.38
Spokesperson	52	9.85	1.41
Disturbance Handler	52	9.63	1.77
Figurehead	52	9.54	1.91
Negotiator	52	9.06	1.85

Table 4.27 reveals all ten managerial roles are used some to a lot by the respondents in level (4 to 8 years). Respondents indicated the Leader role is used most often, followed by the Liaison role, the Disseminator role, and the Monitor role. The Resource Allocator, the Entrepreneur, and the Spokesperson roles are the next most used roles. The least used roles are Disturbance Handler, Figurehead, and Negotiator.

Table 4.28: Managerial Roles for Years in Current Position (over 8)

Managerial Roles	N	Mean	Standard Deviation
Leader	43	11.34	1.03
Disseminator	43	10.98	1.16
Liaison	43	10.83	1.17
Monitor	43	10.81	1.07
Resource Allocator	43	10.26	1.57
Entrepreneur	43	10.23	1.65
Spokesperson	43	10.14	1.37
Negotiator	43	9.45	1.98
Figurehead	43	9.29	1.81
Disturbance Handler	43	9.16	1.95

Table 4.28 reveals all ten managerial roles are used some to a lot by the respondents in level (over 8). Respondents indicated the Leader role is used most often, followed by the Disseminator role, the Liaison role, and the Monitor role The Resource Allocator, the Entrepreneur, and the Spokesperson roles are the next most used roles. The least used roles are Negotiator, Figurehead, and Disturbance Handler.

Years of Managerial Experience

Table 4.29 shows the managerial roles of CAOs based on years of managerial experience. CAOs were placed into five levels of managerial experience: (1 to 5 years), (6 to 10 years), (11 to 15 years), (16 to 20 years), and (over 20 years). The table shows five columns of managerial roles for the five levels. The first column gives the mean scores of the CAOs who have been

managers from 1 to 5 years. The second column gives the mean score for CAOs who have been in the position from 6 to 10 years. The third, fourth, and fifth columns show the same information for the remaining levels. Included in the table is the number of respondents within each of the levels.

Table 4.29: Managerial Roles in Five Separate Managerial Experience Levels

Managerial Roles	(1/5)	(6/10)	(11/15)	(16/20)	(> 20)
	(10)	(38)	(46)	(38)	(52)
Leader	11.40	11.49	11.41	11.08	11.54
Figurehead	7.50	9.41	8.96	9.74	9.35
Liaison	11.10	11.12	11.04	11.21	11.02
Monitor	10.10	10.84	10.83	11.03	10.90
Disseminator	10.90	11.47	10.93	11.08	10.94
Spokesperson	9.20	9.76	9.96	10.03	10.14
Entrepreneur	9.70	10.71	10.37	10.08	10.26
Disturbance Handler	9.30	9.55	9.63	9.50	9.42
Resource Allocator	9.60	10.61	10.14	10.29	10.56
Negotiator	8.60	9.33	9.15	9.11	9.56

Table 4.29 reveals findings concerning managerial roles with managerial experience. Respondents with 5 or less years experience indicated the most emphasized role is the Leader role, the Liaison role, and the Disseminator role. The least emphasized role was the role of the Figurehead. Respondents with 6 to 10 years of experience indicated the Leader role was the most emphasized role. The Disseminator and Liaison roles were the second and third most emphasized roles. The least emphasized role was the Negotiator role. Respondents with 11 to 15 years managerial experience indicated the Leader role as most emphasized followed by the Liaison and Disseminator roles. The least emphasized role was the role of Figurehead. Respondents with 16 to 20 years managerial experience

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indicated the Liaison role as the most emphasized role followed by the Disseminator role and the Leader role. The least emphasized role was the role of Negotiator. Respondents with more than 20 years managerial experience indicated the Leader role as most emphasized followed by the Liaison and Disseminator roles. The least emphasized role was the role of Figurehead.

Years at Current Institution

Table 4.30 shows the differences between emphasized managerial roles based on the number of years a CAO has been at their current Institution. CAO respondents were placed into three separate categories: (1 to 5 years), (6 to 15 years), and (over 15 years). The table gives the means of the managerial roles for the three categories. The means for the managerial roles are given in three columns. Also, included in the three columns are the numbers of respondents.

Table 4.30: Managerial Roles for Years at Current Institution

Roles	(1/5) (67)	(6/15) (47)	(>15) (70)
Figurehead	9.46	9.41	8.91
Leader	11.52	11.33	11.31
Liaison	11.16	11.14	10.99
Monitor	10.91	10.87	10.79
Disseminator	11.10	10.96	11.13
Spokesperson	10.02	10.11	9.76
Entrepreneur	10.37	10.36	10.23
Disturbance Handler	9.61	9.49	9.43
Resource Allocator	10.39	10.51	10.22
Negotiator	9.18	9.29	9.33

Table 4.30 shows the managerial roles for years at current institution. CAO respondents who have been at their current institution from 1 to 5 years indicated the most emphasized role was the Leader role followed by the Liaison and Disseminator roles. The least used role is the Figurehead role. Respondents who have been in the position from 6 to 15 years indicated the most emphasized role was the Leader role followed by the Liaison and Disseminator roles. The least emphasized role was that of Negotiator. CAOs with greater than 15 years indicated the most emphasized role was the Leader role followed by the Disseminator and Liaison roles. The least emphasized role was the Figurehead role.

Causal-Comparative Statistics

It is obvious from looking over the tables in the Descriptive Statistics section that differences do exist for managerial roles based on the environmental, personal, and situational variables. Even though there appear to be differences, this section identifies whether the differences are statistically significant. In other words are the differences in the means of the managerial roles based on those different (environmental, personal, or situational) inputs or are they simply random differences. There were some statistically significant different means. However, the measure of association using the omega squared technique showed small to medium associations. Therefore, the reader should realize that these statistically significant differences may not be found with other sample populations.

In all of the tests performed, when appropriate, the independent variables were environmental (span of control, region, collective bargaining), personal (age and gender), or situational (years managerial experience, years at institution, and years in position). The dependent variables were the ten managerial roles. First, a MANOVA was performed selecting various independent variables with the dependent variables and if significance was found, then follow up univariate tests were conducted to help substantiate the claim. Only significant findings are reported in this section.

A MANOVA was performed using gender and other independent variables such as years of managerial experience and age; however, only gender

showed significance with three managerial roles - leader, liaison, and disseminator. To further substantiate this discovery, a one-way ANOVA (Analysis of Variance) was utilized. Again, statistical differences were discovered for these roles as they relate to gender. Indeed, Table 4.21 and Table 4.22 showed female CAOs placed more emphasis on those three roles than their male counterparts. Tables 4.31 to 4.33 show the statistical significance.

Table 4.31: ANOVA for Leader by Gender

Source	*SS*	*Df*	*MS*	*F*	*Significance*
1.Between	12.38	1	12.38	11.71	.001
2.Within	192. 31	182	1.06		
3. Total	204.68	183			

Table 4.32: ANOVA for Liaison by Gender

Source	*SS*	*Df*	*MS*	*F*	*Significance*
1.Between	10.19	1	10.19	9.48	.002
2.Within	195.58	182	1.08		
3. Total	205.77	183			

Table 4.33: ANOVA for Disseminator by Gender

Source	*SS*	*Df*	*MS*	*F*	*Significance*
1.Between	12.21	1	12.21	8.15	.005
2.Within	272. 72	182	1.50		
3. Total	284.94	183			

The MANOVA discovered statistically significant differences between the five categories of the situational independent variable managerial experience and the dependent managerial variable Figurehead. To further substantiate this finding, a one-way ANOVA was performed. Statistical differences were found with the

Figurehead role by years of managerial experience. Table 4.29 seems to indicate that CAOs with less than five years managerial experience place less emphasis on the Figurehead role than CAOs who have more than five years worth of experience. The table does not indicate that the role becomes more emphasized with more managerial experience but that there is definitely a statistical difference with CAOs who have less than 5 years experience and those who have more than 5. The largest difference is between the two categories (less than 5) and (16 to 20). Table 4.34 describes the significance for the five levels of managerial experience.

Table 4.34: ANOVA for Figurehead by Years of Managerial Experience

Source	*SS*	*df*	*MS*	*F*	*Significance*
1.Between	45.01	4	11.25	2.86	.025
2.Within	705.48	179	3.94		
3. Total	750.49	183			

The MANOVA found statistical significance with the independent personal variable age and the dependent managerial variable Monitor. Using a one-way ANOVA, statistical differences were found with the Monitor role by the three levels of age of CAOs. Tables 4.23 to 4.25 showed that older CAOs perceive the role of Monitor as more important than their younger counterparts. Table 4.35 describes the significance for the mean differences in the Monitor role for the three categories of age.

Table 4.35: ANOVA for Monitor by Age

Source	*SS*	*df*	*MS*	*F*	*Significance*
1.Between	9.22	2	4.61	3.07	.049
2.Within	271.82	181	1.50		
3. Total	281.04	183			

Correlation Statistics

Correlation analysis was used to determine if any dependent (managerial roles) variables were associated to any independent (environmental, personal, or situational) variables. A correlation matrix showing the correlations of the independent variables associated to the environmental, personal, and situational variables and the dependent variables associated with the managerial roles was performed to check for any relationships between the variables. Only two correlations were found using the non-parametric correlation Spearman's rho; however, no correlations were found using Pearson's product moment. Since the independent variable span of control was treated continuously and the dependent variables disseminator and entrepreneur were ranked, and neither the independent nor dependent variables were normally distributed, the researcher decided to report the non-parametric correlations.

A negative correlation (.05 level; 2-tailed) was found between span of control and the Disseminator role and a positive correlation (.05 level; 2-tailed) was found between span of control and the Entrepreneur role. Table 4.11 does

not illuminate precisely this behavior of the CAOs since span of control in Table 4.11 was partitioned into three levels: (1 to 10 individuals), (11 to 20 individuals), and (over 20 individuals). However, if you do not partition span of control (treat span of control as continuous), the data indicates when CAOs have more people reporting directly to them, the role of Disseminator is emphasized less and the role of Entrepreneur is emphasized more. A canonical correlation was performed between the (environmental, personal, and situational) variables and the managerial roles. The canonical correlation did not reveal any new information for the study.

Summary

All ten managerial roles were reported as being used in the CAO position. In many of the cases, the three most emphasized roles were leader, liaison, and disseminator. Differences (not statistical significant differences) do occur for the order of the last seven roles. Differences are attributed to the environmental (span of control, region, and collective bargaining), personal (age and gender), and situational (years of managerial experience, years at institution, and years in current position) features of the position.

Statistical significant differences were not numerous. The personal characteristics gender and age and the situational characteristic years of managerial experience attributed statistical differences for the (Leader, Liaison, and Disseminator roles), Monitor, and Figurehead, respectively.

Correlations were not numerous as well. The two correlations found were a negative correlation between span of control and Disseminator and a positive correlation between span of control and Entrepreneur. It appears that when span of control increases, the importance of the Disseminator role decreases and the importance of the Entrepreneur role increases.

Implications of the results are very important to this study. Chapter V will give the implications of the findings. Included within the chapter are a summary of the findings, a summary of the implications to the findings, a summary of the implications to Mintzberg's Theory, and future research.

CHAPTER V

IMPLICATIONS FOR PRACTICE

The purpose of Chapter V is to summarize the findings of the research study concerning managerial roles of community college CAOs and to draw conclusions. Included in Chapter V are the following topics: (1) summary of the study; (2) summary of the findings; (3) implications for practice; (4) implications for theory; (5) recommendations for future research; and (6) conclusions.

Summary of the Study

The primary purpose of this study was to identify what managerial roles CAOs at community colleges across the nation perform and which roles they emphasized.

The theoretical framework for this study was based on Mintzberg's (1973) theory of managerial roles. Mintzberg (1973) said all managers perform ten roles and roles emphasized are a result of four influencing variables.

To accomplish the objectives of this study, survey research was employed. The survey had to be modified thus two pilot studies had to be performed before the actual study was consummated. The instrument was used to gather quantitative data concerning managerial roles and influencing variables.

The universal population for this research was 965 CAOs at community

colleges in six accreditation regions. The sample population was 250. Two waves of surveys were mailed along with an endorsement by the committee chair. Upon completion of the second wave, a total of 184 surveys were received, representing a 73.6% response rate.

Managerial roles along with the most emphasized roles based on environmental, personal, and situational variables were described. To accomplish the objectives the following five questions were answered: (1) What managerial roles (as defined by Mintzberg) do CAOs at community colleges perform; (2) Which roles are emphasized; (3) What are the differences in emphasis based on environmental variables; (4) What are the differences in emphasis based on personal variables; and (5) What are the differences in emphasis based on situational variables.

This study: (1) revealed that CAOs perform all ten of Mintzberg's (1973) managerial roles; and (2) showed there are differences in roles emphasized based on influencing variables.

Summary of the Findings

In summarizing this study, the researcher found that CAOs at community colleges across the United States perform all ten managerial roles that Mintzberg (1973) claimed all managers use on the job. The top three roles that CAOs across the United States emphasize from Table 4.12 are: (1) Leader, (2) Liaison, and (3) Disseminator. The order of the next roles CAOs perform are: (4) Monitor, (5)

Resource Allocator, (6) Entrepreneur, (7) Spokesperson, (8) Disturbance Handler, (9) Figurehead, and (10) Negotiator. There are differences in which roles are emphasized based on the environmental (span of control, region, and collective bargaining) variables, personal (age and gender) variables, and situational (years of managerial experience, years at institution, and years in current position) variables. However, it should be pointed out that only five statistically significant differences were found.

The first four were found with the personal characteristics gender and age and the managerial roles (Leader, Liaison, and Disseminator) and Monitor, respectively. The data indicated that female CAOs place more emphasis on these three roles than their male counterparts and that older CAOs place more emphasis on the Monitor role than their younger counterparts. The fifth statistical difference was found with Figurehead by years of managerial experience. The data indicated that managers with less than five years of experience do not place as much emphasis on the Figurehead role as managers with more than five years of experience.

The only correlations found were an inverse correlation between the Disseminator role and span of control and a positive correlation between the Entrepreneur role and span of control. According to the data, as span of control increases, the role of Disseminator tends to decrease and the role of Entrepreneur tends to increase. The next paragraphs explain each of the findings in greater detail.

Situational Characteristics (Span, Collective Bargaining, Region)

Span of Control

The first situational characteristic studied was span of control. Span of control was defined as the number of individuals reporting directly to a CAO. Tucker and Bryan (1991) said the CAO's job is to help other people. By helping other people, the CAO is able to help in the "building" of the college. The way CAOs do that is by coordinating the functions of the deans, chairpersons, other managers, and faculty as Marchese (1989) and Moden (1987) pointed out. This study revealed just how many of those types of people report directly to the CAO. A current CAO can expect around 9 individuals reporting directly to him/her. This means that a CAO has to be a person who can set an agenda, communicate effectively, and guide approximately 9 other people and perhaps their subordinates.

To answer what affect span of control has on managerial roles, CAOs were placed into three categories of span: Small (1 to 10), Medium (11 to 20) and Large (over 20). The Leader role was found to be the most emphasized role by CAOs in all categories. CAOs in small spans indicated the Disseminator role was the second most important role, while CAOs with medium and large spans reported the Liaison role as being the second most important role. There was an inverse correlation discovered between span of control and the Disseminator role

and a positive relationship between span of control and the Entrepreneur role. The data indicated that as span increases the role of Disseminator tends to decrease in emphasis and the role of Entrepreneur tend to increase. The least emphasized roles in all three cases were Figurehead, Disturbance Handler, and Negotiator. It should be noted that there were no statistically significant differences found in roles based on small, medium, or large spans of control. Even though there were not statistical differences between the means for each level, this study seems to support Baldridge's (1973) claim that span of control changes which roles are emphasized. In practice, an individual aspiring to be a CAO should be moderately concerned with differences in managerial roles based on span of control.

Collective Bargaining

The second situational variable studied was collective bargaining versus non-collective bargaining institutions. Steiner (1975) said CAOs who are negotiating, need to keep a sharp sense of balance between the immediate role as institutional representative at the bargaining table and the long-term task of providing instructional leadership for the campus. Because of this balance and the effort CAOs need to make in collective bargaining institutions, the researcher hypothesized the Negotiator role would be statistically different between collective bargaining and non-collective bargaining institutions. However, this hypothesis was not verified. The data suggests the role of Negotiator has

generally the same importance at both types of institutions. The Negotiator role was the ninth most used role for collective bargaining institutions and tenth for non-collective bargaining institutions with no statistically significant differences between their means. The Leader, Liaison, and Disseminator roles were most emphasized for both types of institutions. Therefore, individuals aspiring to be CAOs should understand that roles such as negotiator are equally unimportant at both types of institutions.

Region

There were no statistical differences between the managerial roles within the six-accreditation regions. The three most emphasized roles were leader, liaison, and disseminator. However, the order of emphasized managerial roles did vary for the latter seven managerial roles. The roles of Monitor and Entrepreneur were consistently placed after the top three roles except for the Middle States Association of Schools and Colleges (MASAC) and the Western Association of Schools and Colleges (WASC). In those regions, the role of Resource Allocator was considered more important than the role of Entrepreneur. The role of Spokesperson varied from seven to eight from region to region. Also, the role of Figurehead was consistently one of the last three emphasized roles. Even though there are no statistical differences between managerial roles and region, it would be helpful for an individual who is aspiring to be a CAO to understand which roles are most emphasized in their particular region.

Personal Characteristics (Gender and Age)

Gender

Hawthorne (1994) said female CAOs comprised only 26% of the total number of CAOs at community colleges. McKenney (2000) reported the number of female CAOs to be on the rise. This study supports this claim. Over 40% of the respondents were female and close to 60% of the respondents were male. The largest disparity between female and male CAOs (30%:70%) was the New England Association of Schools and Colleges (NEASC). Two regions had the same percentage of females and males: WASC and NASAC.

Both genders said the top three managerial roles they perform are Leader, Liaison, and Disseminator. There were similarities with the order for each of the other roles as well. This result supports Leonard's (1981) claim that managerial roles are androgynous. However, there were statistically significant differences between the means for each of the top three roles. The data indicated that female CAOs place even more emphasis on the top three emphasized roles than their male counterparts.

Age

Hawthorne (1994) reported the average age of CAOs as 50.3 ranging from 32 to 73 years of age. This study found similar results. The average age was 52.5

ranging from 29 to 65. The mode was 55 with the majority of respondents being over 53 years of age. The region with the highest average age was New England (NEASC) with an average age of 54.5 years. The region with the lowest average age was Northwest (NASAC) with an average age of 51.4 years.

In order to study managerial roles emphasized based on age, CAOs were placed into three categories of age: (29 to 40), (41 to 55), and (56 to 65). There was one significant difference between the three categories of age for the Monitor role. Older CAOs indicated the Monitor role as more important to them than their younger counterparts. In all three categories, the most emphasized roles were Leader, Liaison, and Disseminator.

Situational Characteristics (Years Managerial Experience, Years at Institution, Years in Current Position)

Years Managerial Experience

Wiedman (1978) indicated that the years of experience that an administrator had could impact the roles they emphasize. The CAO respondents in this study indicated they had approximately 15.5 years of managerial experience with a range of 2 to 37 years. CAOs from the North Central Association of Schools and Colleges (NCASC) indicated the most years of experience (17.4 years) while CAOs from Middle States Association of Schools and Colleges (MASAC) indicated the least years of managerial experience (13.7 years).

This study supported Wiedman's (1978) claim that years of managerial experience can impact managerial emphasis. CAOs were placed in five categories of years of managerial experience: (1 to 5), (6 to 10), (11 to 15), (16 to 20), and (over 20).

One statistical difference was found. CAOs with less than five years experience do not place as much importance on the Figurehead role as CAOs with over five years experience. This result may indicate that the Figurehead role is developed over time.

Another interesting result was that respondents in this category (16 to 20) indicated the role of Liaison as the most important role rather than the role of Leader as the other groups indicated. This happens to be the only time in this entire study where there is a deviation from the norm of Leader being the most important role.

Years at Current Institution

On average, CAOs have been at their current institution for 13.5 years. CAOs in the Northwest Association of Schools and Colleges (NASAC) have been at their current institutions for the shortest time (9.8 years) while CAOs from the New England Association of Schools and Colleges (NEASC) have been at their current institutions for an average of 16.2 years which is the largest of any region.

CAOs were placed into three categories for years at current institution: (1 to 5), (6 to 15), and (over 15). The Leader, Liaison, and Disseminator roles were

the most emphasized roles and the least emphasized roles were the Negotiator role and the Figurehead role. No statistically significant differences were found.

Years in Current Position

This study found CAOs have been in their current positions approximately 4 years with a range of 1 to 25 years. The results were similar to Hawthorne's (1994) results. Hawthorne (1994) said the average tenure of CAOs was approximately 6.1 years ranging from 1 to 34 years.

CAOs were placed into three categories of years in current position: Level A (1 to 3), Level B (4 to 8), and Level C (over 8). The top three roles were Leader, Liaison, and Disseminator for all three categories. CAOs in Level C said the least emphasized role was Disturbance Handler while Level A and Level B CAOs said Figurehead and Negotiator respectively were the least emphasized roles. It could be that the more years in the position, the fewer disturbances a CAO has to deal with. CAOs with over eight years experience may be stopping problems before they arise.

Role Ambiguity and Satisfaction

Glick (1992) said it is possible that CAOs are dissatisfied with their jobs. Murray, Murray, and Summar (2000) did not agree with Glick (1992). They reported CAOs as being very satisfied. This study confirmed Murray, Murray, and Summar's (2000) results. The results from this study revealed that CAOs

have some (3) to a lot (4) of satisfaction from their positions from a scale of no satisfaction (1), a little satisfaction (2), some satisfaction (3), to a lot of satisfaction (4).

Bowker (1981) indicated that CAOs might have much role ambiguity. However, this study showed that CAOs have a little (2) to some (3) role ambiguity on a scale of no role ambiguity (1), a little role ambiguity (2), some role ambiguity (3), and a lot of role ambiguity (4).

Implications for Practice

Because the CAOs from all six regions indicated that all ten roles are used in the position, the first implication is that knowledge and skills related to all ten roles should be developed with more emphasis given to the emphasized managerial roles.

The most emphasized role the respondents indicated is the role of leader. For this reason, future CAOs and newly appointed CAOs should read literature concerning leadership and go to workshops that help develop effective leadership traits within collegiate organizations.

The second most emphasized role is the role of Liaison. The third most used role is the disseminator role. In order to fulfill these two roles, CAOs must be able to gather information using network contacts and they must be able to

transmit information to their subordinates. Thus, future CAOs should make sure they have effective communication skills: both verbal and written. One corollary is that CAOs should be able to utilize technological tools such as e-mail, spreadsheets, and word processors as indicated by Townsend and Bassoppo-Moyo (1996).

The next cluster of managerial roles CAOs reported was Monitor, Resource Allocator, and Entrepreneur. The Monitor role requires CAOs to have skills in networking with other people inside and outside the academic department. The Resource Allocator role requires that CAOs initiate, develop, and maintain the operational budget within the academic division. The Entrepreneur role requires CAOs to have skills in searching internally and externally for new innovations or opportunities and situations that may improve the performance or outcomes of the institution. CAOs need to be innovative and effective problem solvers. These three roles require people who are innovative and who feel comfortable with some ambiguity.

The last cluster of managerial roles emphasized by CAOs was Spokesperson, Disturbance Handler, Figurehead, and Negotiator. The role of Figurehead and Spokesperson requires excellent public speaking skills as well as strong discretion concerning sensitive information within the organization. CAOs need to be aware that they are public servants and the general public could scrutinize their lives. The roles of Disturbance Handler and Negotiator require the ability to make difficult decisions. However, before decisions are made, an

effective CAO should take the time to find out as many facts as possible. In other words CAOs should be reflective in their behavior.

It is interesting that the roles of Figurehead and Spokesperson never were in the top three emphasized role list. Clearly, CAOs at community colleges are more like middle managers internally focused than CEOs who are highly visible. However, it is interesting that CAOs with over five years of managerial experience indicate the Figurehead role is more important to them than their counterparts with less than five years of experience. This could mean that managers, in general, develop more of a Figurehead identity as they gain more experience.

Summary of Implications for Practice

The summary of the implications is as follows:

- All ten managerial roles are used by CAOs. Those who plan to prepare for the CAO position should prepare for all ten roles.
- The three most emphasized roles are Leader, Liaison, and Disseminator. All three of these roles have aspects that are internally focused. CAOs need to be effective at internal-type functions such as creating, communicating, and maintaining an agenda to an average of 14 subordinates.

- Because there is much homogeneity in emphasized managerial roles between the six accreditation regions for CAOs, preparation for becoming a CAO should be similar from region to region and from collective bargaining institutions to non-collective bargaining institutions.
- CAOs with five or more years of experience place more emphasis on the role of Figurehead than CAOs with fewer years experience. This indicates that the role of Figurehead might be developed with experience.
- As CAOs gain more experience, the role of Disturbance Handler tends to decrease. Perhaps the more experience a CAO has, the fewer problems they are able to eliminate before they arise. This could be one reason the job satisfaction of community college CAOs is so high.
- Female and male CAOs perceive the managerial roles in similar order. However, female CAOs place more emphasis on the Leader, Liaison, and Disseminator roles than their male counterparts.
- CAOs with large spans of control tend to place less emphasis on the Disseminator role and more emphasis on the Entrepreneur role than CAOs from small span of control institutions. CAOs with more staff reporting directly may be able to work more efficiently through bureaucratic chains of command or simple delegation than their counterparts that have fewer individuals reporting to them. This could give them more time to be entrepreneurial.

- CAOs at community colleges are staying in the position approximately 6 years. The data does not support low job satisfaction or high role ambiguity as the cause of them leaving. Since it appears CAOs develop the Figurehead role after 5 years, they may feel more confident about assuming a presidency after 6 years in the CAO position.
- The average age of CAOs of community colleges has risen since 1994. Most CAOs are above the age of 55. If many of these CAOs are planning to retire or move into presidencies in the next 10 years, there could be a crisis looming in the future. Community colleges need to strongly consider training younger managers with the potential to be effective CAOs.
- The Negotiator role was not significantly different from collective bargaining institutions to non-collective bargaining institutions. However, regions with large percentages of collective bargaining did place the role of Negotiator higher in the order list than non-collective bargaining regions. The role of Negotiator never made it in the top-three role list.
- Older CAOs tend to place more importance on the Monitor role than their younger counterparts. It is not certain why this may be the case.

- Managers with 16 to 20 years of experience emphasized the role of Liaison as more important than the role of Leader. It could be that as managers are more successful they develop more contacts and see their role as fostering outside relationships more than being focused within their department.
- A new managerial survey was created with this study. It can be used to continue studying CAOs at community colleges. The survey demonstrated adequate reliability and internal validity.

Implications for Theory

The theoretical framework for this study was Mintzberg's (1973) theory on managerial roles. Mintzberg said all managers perform ten basic roles: (1) Figurehead, (2) Leader, (3) Liaison, (4) Monitor, (5) Disseminator, (6) Spokesperson, (7) Entrepreneur, (8) Disturbance Handler, (9) Resource Allocator, and (10) Negotiator.

These roles are categorized into three main groups. The first three are Interpersonal roles (figurehead, leader, liaison), the second three are Informational roles (monitor, disseminator, spokesman), and the last four are Decisional roles (entrepreneur, disturbance handler, resource allocator, negotiator).

Interpersonal Roles

Mintzberg (1973) said the manager's position is always the starting point in a given analysis concerning organizations. Since, the manager is the leader of a particular organizational unit, formal authority and status is immediate for the manager. From this formal authority and this status come the interpersonal roles.

First, the manager plays the role of the figurehead. The manager represents the company in all formal matters of engagement with the external constituencies. Second, this status allows the manager to play the role of the liaison. Managers form partnerships with colleagues and other people outside the organization to secure favors and information. Third, the manager is the leader. The authority that managers have relegates to them the role of motivator, staffer, and a sundry of other jobs.

Informational Roles

The uniqueness of the manager having access to important information makes the manager the focal point for organizational information. Thus, the managers second major role area is formed: the informational role. The manager is the monitor of the system because the manager receives and collects information allowing for broader understanding of the organization. Because the manager is able to give information to individuals throughout the organization, the role of disseminator is also important. In a much broader sense, the manager

is able to carry the organization's information to the environment at large and fulfill the role of the spokesman.

Decision-Making Roles

Because the manager is the apex of status and authority and because all information must come through this position, this centers the manager at the focal point for decision-making. Within this main role of decision maker are four roles. First, the manager is an entrepreneur. The manager is at the forefront of making changes. When the organization is threatened, the role of disturbance handler is performed. As a resource allocator, the manager decides where the institution will expend resources. Finally, as the negotiator, the manager must face situations that could jeopardize some facet of the organization and so negotiations must be held.

Influencing Variables

Mintzberg said each role is influenced by four variable-types: (1) the environment (characteristics of the organization), (2) the job (its level and the functions supervised), (3) the person (characteristics of the manager), and (4) the situation (the temporal features).

Mintzberg's Typology requires three assumptions. These assumptions are (1) all ten-management roles are required to some degree by all managers, (2) each management role is interdependent with at least one other management role, and (3) adjacent managerial roles form a directional linear pattern from interpersonal to informational to decisional.

CAOs at Community Colleges and Mintzberg's Managers

To begin, two of Mintzberg's three assumptions mentioned above were tested and verified with this study. All ten managerial roles are required by CAOs at community colleges and each management role was shown to be interdependent with at least one other management role. The third assumption was not tested. The author did not investigate the third assumption because the nature of this study was to explore what managerial roles were used and not assume any were used. Thus, the research did not ask respondents to disclose the directional pattern they believed the roles moved in.

Mintzberg's managers perceive themselves to be Figureheads of the company. CAOs at community colleges did not place much emphasis on the Figurehead position. They do fulfill this role, but they do not perform it often. However, CAOs tend to place more emphasis on this role as they gain more experience. It could be a role that is developed with experience.

Mintzberg's managers assume the role of Liaison. These managers form partnerships with colleagues and other people outside the organization to secure favors. CAOs at community colleges ranked this role as one of the most used roles. In fact, CAOs who have been managers from 16 to 20 years ranked this role as their most used role.

Mintzberg's managers perform the role of Leader. The authority that managers have relegates to them the role of motivator, staffer, and a sundry of other jobs. CAOs at community colleges placed the Leader role as their most frequently used role.

Mintzberg's managers perform the role of Monitor. The manager is the monitor of the system because the manager receives and collects information allowing for broader understanding of the organization. The CAOs consistently ranked this role as being moderately used. Its rank was generally the fourth, fifth, or sixth role depending on the influencing variable studied.

Mintzberg's managers perform the role of Disseminator. Because the manager has access to so much information, the manager is able to give information to individuals throughout the organization. The CAOs involved with the study consistently reported the role of Disseminator as one of the top three most frequently used roles.

Mintzberg's managers perform the role of Spokesperson. The manager is able to carry the organization's information to the environment at large and fulfill

the role of the spokesman. CAOs at community colleges never placed this role as one of the top three emphasized roles. Generally, this role was placed in the last four positions depending on the influencing variable studied.

Mintzberg's managers perform the role of Entrepreneur. The manager is at the forefront of making changes. CAOs at community colleges ranked this role in the fifth, sixth, or seventh positions, generally.

Mintzberg's managers perform the role of Disturbance Handler. When the organization is threatened, the role of disturbance handler is performed. Most of the time, this role was placed low in the order. In fact, managers who have more than 8 years of experience placed this role as the last role they emphasized.

Mintzberg's managers perform the role of Resource Allocator. As a resource allocator, the manager decides where the institution will expend resources. CAOs consistently placed this role as the fifth or sixth most used role. It is a role that is definitely used moderately by all CAOs.

Mintzberg's managers perform the role of Negotiator. The manager must face situations that could jeopardize some facet of the organization and so negotiations must be held. CAOs at all community colleges, both collective bargaining and non-collective bargaining, fulfill this role with the same frequency. This role was usually found in one of the two last positions.

Recommendations for Future Research

This study has made a contribution to the field of higher education administration for several reasons: (1) it has attempted to fill a gap in the literature concerning managerial roles of CAOs at community colleges; (2) it could possibly aid in helping individuals who would like to be CAOs at community colleges know how to prepare for the position; (3) it will possibly help current CAOs and their institutions be more reflective about the position and the roles assumed in the position; (4) it may help hiring committees know how to develop policies and procedures in selecting CAOs; (5) it has furthered the use of Mintzberg's theory in higher education; and (6) it has generated more questions that should be answered. Recommendations for future research follow:

- Replicate the study using the same methodology and compare the results.
- Follow-up research concerning closed markets.
- Replicate the study using other types of institutions and compare the results.
- Conduct the study longitudinally, perhaps every five years; compare the results and look for changes in the influencing variables and managerial roles.
- Compare managerial roles of presidents to managerial roles of CAOs at community colleges. See if CAOs are preparing adequately for the presidency.

- Compare managerial roles of deans to managerial roles of CAOs at community colleges. See if deans are preparing adequately for the CAO position.
- Ask subordinates, presidents, and the board of regents what are their perceptions of the CAOs managerial roles.
- Qualitatively analyze managerial roles of CAOs at community colleges. Find out what prepared them the most for the CAO position.

This study was comprehensive across the nation. Therefore, a weakness of the study was that it might not have focused close enough attention on any one particular region of the country. Researchers could study particular regions in greater detail and compare those results with this national study.

Conclusions

The answers to the five research questions that guided this research study into the managerial roles of CAOs at community colleges across the United States and the resulting implications, recommendations, and conclusions should be taken seriously because of the strengths of this study: (1) a 73.6% response rate from a sample population of 250 CAOs across six accreditation regions within the United States; (2) the generalizability of the results across the nation and across each of the six-accreditation regions; and (3) the high reliability and internal validity of the managerial role survey.

Knowing the managerial roles of CAOs at community colleges and which roles they tend to emphasize is very important for at least three reasons. First, the way CAOs perceive their work and the roles they fulfill may have implications for the institution. Knowing which roles they emphasize may help new CAOs have reasonable expectations of the position. From the results of the study, new incumbents coming from a dean level or below should not view their new job as a high profile position. They should not be preparing to be a Figurehead or Spokesperson when they should be preparing to be a Leader, Liaison, and Disseminator. Second, an increase in effectiveness of CAOs in community colleges can lead to better functioning institutions that should strengthen the community college movement by increasing morale and other important components associated to the faculty and other managers. Third, it is apparent that CAOs are not leaving the position at community colleges based on job dissatisfaction. Since, job dissatisfaction is not a perceived problem, CAOs high rate of turnover could be due to them moving into presidencies. If this position generates presidents, then CAOs need to develop an understanding for how to be effective at the CAO position while balancing their ambition for becoming presidents.

Even though CAOs showed measures for high job satisfaction and low role ambiguity, there is still room for improvement. The results of this study can Be used to transform the policies and practices of the CAO position. For instance,

CAOs may need more knowledge concerning the Leader position. Or they may need a refresher seminar on effectively disseminating information to the organization. In this case perhaps money could be made available for CAOs to attend workshops or conferences to help them develop effective traits for the roles demanded of them.

The results of this study create the first benchmark for managerial roles of CAOs at community colleges. CAOs can compare their roles that they perform to the national data and also to the data within their particular accreditation region. They will know if their roles they emphasize are similar to the roles within their population. Aspiring CAOs know the national environment of the CAO position at community colleges in which they will be entering. They also, know the differences of emphasized managerial roles based on the influencing variables. Perhaps the results of the study will persuade or dissuade individuals to assume a CAO position because they received an accurate reflection of the position.

Based on the data, it appears that whatever geographical location an individual is planning to be a CAO, all ten managerial roles are used (1) Figurehead, (2) Liaison, (3) Leader, (4) Disseminator, (5) Monitor, (6) Entrepreneur, (7) Spokesperson, (8) Resource Allocator, (9) Disturbance Handler, and (10) Negotiator. The three most emphasized roles are (1) Leader, (2) Liaison, and (3) Disseminator. Knowing this knowledge, those aspiring to be CAOs and

those desiring to be more effective CAOs can research the literature concerning these areas. Thus, these individuals should develop effective skills at leading the academic area of their community college and ultimately this should help to strengthen the community college movement across the nation.

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APPENDIX A

CONTENT VALIDITY PILOT STUDY COVER LETTER

Texas Tech University
College of Education
Box 41071
Lubbock, TX 79409-1071
(806) 742-2377
FAX (806) 742-2179

May 17, 2001

Dear Manager:

I am working on my dissertation under the direction of Dr. John P. Murray, associate professor of Higher Education at Texas Tech University. I would appreciate your participation with a project concerning managers and their managerial roles. Your expertise as a manager would be most helpful for ensuring the survey utilized in this study has construct validity for each managerial role used.

Your feedback concerning this survey will be very helpful in order to gain new knowledge of the roles of chief academic officers. The feedback that I would like from you includes which questions (if any) sound confusing, how long it took to complete the task, and your recommendations on changing the wording for questions that seem misleading. Instructions concerning how to begin are on the next page. Please send the results to the address listed below. Thank you very much for your time and cooperation.

Sincerely,

Phil Anderson
Doctoral Candidate

Instructions

The survey study uses Mintzberg's ten managerial roles: Figurehead, Leader, Liaison, Monitor, Disseminator, Spokesperson, Entrepreneur, Disturbance Handler, Resource Allocator, and Negotiator. Each role is defined in the following way:

1. Figurehead - symbolic head; obliged to perform a number of routine duties of a legal or social nature.

2. Leader – responsible for the motivation and activation of subordinates; responsible for staffing, training, and associated duties.

3. Liaison – maintains self-developed network of outside contacts and informers who provide favors and information.

4. Monitor – seeks and receives wide variety of special information (much of it current) to develop thorough understanding of organization and environment; emerges as nerve center of internal and external information of the organization.

5. Disseminator – transmits information received from outsiders or from other subordinates to members of the organization; some information factual, some involving interpretation and integration of diverse value positions of organizational influences.

6. Spokesperson – transmits information to outsiders on organization's plans, policies, actions, results, etc.; serves as expert on organization's industry.

7. Entrepreneur – searches organization and its environment for opportunities and initiates improvement projects to bring about change; supervises design of certain projects as well.

8. Disturbance Handler – responsible for corrective action when organization faces important, unexpected disturbances.

9. Resource Allocator – responsible for the allocation of organizational resources of all kinds- in effect the making or approval of all significant organizational decisions.

10. Negotiator – responsible for representing the organization at major negotiations.

Each of these ten roles is operationalized in the survey through three distinct questions. This means there are thirty total questions on managerial roles. Questions 31 – 39 may be skipped for the purposes of this pilot study.

To begin, try to identify which three questions relate to the role of Figurehead. Write Figurehead next to the questions you believe relate to the Figurehead role as defined above. Repeat this for the next nine managerial roles. Once, you have finished, make note of questions that were confusing and any recommendations you have.

APPENDIX B

RESEARCH COVER LETTER FOR CAOS

Texas Tech University
College of Education
Box 41071
Lubbock, TX 79409-1071
(806) 742-2377
FAX (806) 742-2179

September 12, 2001

Dear Chief Academic Officer:

I am working on my dissertation under the direction of Dr. John P. Murray, associate professor of Higher Education at Texas Tech University. I would appreciate your participation with a study concerning chief academic officers at community colleges and their managerial roles. Your expertise as a chief academic officer at a community college would be most helpful for ensuring the results of this study are valid and can be generalized to chief academic officers at community colleges.

Your response to this survey will be very helpful in order to gain new knowledge of the roles of chief academic officers. The results of this study may help clarify some of the role ambiguity related to managerial roles that community college chief academic officers may have and would help future chief academic officers prepare for the position. Your help is greatly appreciated. Thank you for your time.

If you have any questions, please, do not hesitate to contact me using e-mail [panderso@spc.cc.tx.us] or calling me at my office (806) 894-9611, ext.2739.

Sincerely Yours,

Phil Anderson
Doctoral Candidate

APPENDIX C

MANAGERIAL SURVEY

Managerial Functions

Instructions

The following questions describe basic managerial functions that are representative of most chief academic officers. Please read each statement carefully and use the four category rating scale to indicate the extent to which each function is required throughout the year in your position as your Institution's chief academic officer. Check the appropriate response to each statement. Your first impressions are usually the best. Please give your opinion on every statement. If you find the choices do not adequately indicate your opinion, use the one that is closest to the way you feel. Check only one response for each item.

	Not At All 1	A Little 2	Some 3	A Lot 4
1. Participating in a variety of symbolic, social, and ceremonial activities such as attending convocations and banquets.				
2. Creating a milieu in which faculty and staff will work effectively.				
3. Maintaining a network of contacts and information sources outside the Academic Affairs division.				
4. Seeking and receiving information so that you can improve or maintain your understanding of the institution and its environment.				
5. Sharing pertinent information received from outsiders or faculty and staff with the appropriate internal office or individuals.				
6. Disseminating information to people outside the Academic Affairs division or the institution.				
7. Searching the institution and its environment to identify opportunities and situations that may require organizational change.				
8. Taking corrective action when you face important, unexpected problems or crises.				
9. Allocating institutional or Academic Affairs divisional resources.				
10. Representing the Academic Affairs division or the institution at various non-routine discussions or negotiations.				

	Not At All 1	A Little 2	Some 3	A Lot 4
11.Feeling obligated to perform a number of routine duties of a ceremonial or social nature such as meeting institutional guests.				
12.Initiating and designing much of the change that occurs within the Academic Affairs division.				
13.Interacting with colleagues within Academic Affairs to develop professional activities and duties.				
14.Developing good interpersonal relations with personnel outside the academic office and academic staff.				
15.Developing your own contacts to establish a personal and informal information network.				
16.Sharing accumulated relevant information with faculty and staff.				
17.Representing the Academic Affairs division or your institution to outside groups.				
18.Taking corrective action because unexpected pressure from either within or outside your institution is too great to ignore.				
19.Scheduling your own time and approving various authorizations within academic affairs.				
20.Resolving problems that develop with other institutional units.				
21.Participating in a variety of symbolic, social, and ceremonial activities such as speaking at convocations or banquets.				
22.Encouraging teamwork among your staff.				
23.Passing information between your department and outside departments.				
24.Monitoring the internal and external environments to make sure operations are running smoothly.				
25.Ensuring staff and faculty are updated with information relevant to them.				

	Not At All 1	A Little 2	Some 3	A Lot 4
26.Speaking to individuals outside your department about information within academic affairs.				
27.Scanning the internal and external environment looking for new innovations to be implemented.				
28.Putting a stop to misbehavior within or outside your department.				
29.Spending time on resource allocation for personnel in Academic Affairs.				
30.Working with two parties to come to an agreement.				

PLEASE ANSWER THE FOLLOWING GENERAL QUESTIONS

31. How satisfied are you with being a Chief Academic Officer?
_____Not At All (1) ____ A Little (2) ____ Some (3) ____ A Lot (4)

32. Are the faculty members at your institution represented by collective bargaining contracts? __yes __no
33. How many individuals (i.e. unit heads, department chairs or other administrators) report directly to you? _____
34. How many years have you been employed in your current position? _____
35. How many years have you worked for your current employer? _____
36. How many years of managerial experience (department head or higher) do you have? _____
37. What is your age? _____
38. What is your gender? ____ female ____male
39. How much role ambiguity would you say your job has: __None (1) __A Little (2) __Some (3) __A lot (4)

Thank you for participating in this study. If you have questions please do not hesitate to contact me using the phone number or e-mail address listed below. Please return the completed survey in the enclosed reply envelope to:

Phil Anderson
5301 51st St #D6.
Lubbock, Texas
79414
(806) 894-9611 ext. 2739
panderso@spc.cc.tx.us

APPENDIX D

SAMPLING FRAME AND SAMPLE

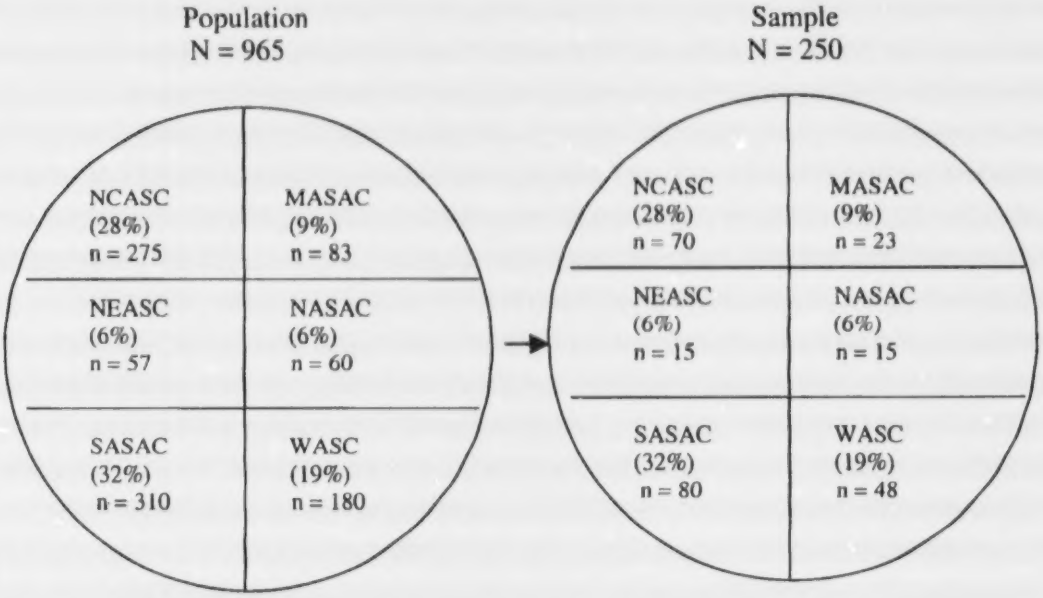

Figure D.1: Sample Frame

Acronym Definitions

NCASC – North Central Association of Schools and Colleges
MASAC – Middle States Association of Schools and Colleges
NEASC – New England Association of Schools and Colleges
NASAC – Northwest Association of Schools and Colleges
SASAC – Southern Association of Schools and Colleges
WASC – Western Association of Schools and Colleges

List of Colleges Selected for Study

NCASC: (1) Aims Community College, (2) Alexandria Technical College, (3) Anoka-Hennepin Technical College, (4) Arapahoe Community College, (5) Barton County Community College, (6) Belmont Technical College, (7) Black River Technical College, (8) Carl Sandburg College, (9) Butler County Community College, (10) Clinton College, (11) Central Wyoming College, (12) Nicolet Area Technical College, (13) City Colleges of Chicago - Harry S. Truman College, (14) City Colleges of Chicago - Olive-Harvey College, (15) Clark State Community College, (16) Cochise College, (17) Colby

Community College, (18) Colorado Mountain College, (19) Columbus State Community College, (20) Garland County Community College, (21) Cuyahoga Community College, (22) Delta College, (23) East Arkansas Community College, (24) Edison State Community College, (25) Trinidad State Junior College, (26) Wisconsin Indianhead Technical College, (27) Garden City Community College, (28) Glen Oaks Community College, (29) Hawkeye Community College, (30) Henry Ford Community College, (31) Highland Community College (Illinois), (32) Illinois Central College, (33) Illinois Valley Community College, (34) Fergus Falls Community College, (35) Ellsworth Community College, (36) Jackson Community College, (37) John A. Logan College, (38) Joliet Junior College, (39) Kansas City Kansas Community College, (40) St. Cloud Community College, (41) Kishwaukee College, (42) Carl Albert State College, (43) Lake Superior College, (44) Lamar Community College, (45) Lewis and Clark Community College, (46) Linn State Technical College, (47) Lorain County Community College, (48) Madison Area Technical College, (49) Maricopa County Community College - Gateway Community College, (50) Tulsa Community College (51) Maricopa County Community College - Scottsdale Community College, (52) McHenry County College, (53) Metropolitan Community College (Nebraska), (54) Central Community College, (55) Milwaukee Area Technical College, (56) Minnesota West Community and Technical College, (57) Northland Pioneer College, (58) Moraine Park Technical College, (59) Morton College, (60) Owens Community College, (61) New Mexico Junior College, (62) North Central Kansas Technical College, (63) North Hennepin Community College, (64) Northeast Community College, (65) Northeastern Junior College, (66) Oklahoma City Community College, (67) North Iowa Area Community College, (68) Pikes Peak Community College, (69) Saint Charles County Community College, (70) Southern West Virginia Community and Technical College

MASAC: (1) Delaware Technical and Community College (Jack F. Owens Campus), (2) Chesapeake College, (3) Howard Community College (Maryland), (4) Brookdale Community College, (5) Mercer County Community College, (6) Warren County Community College, (7) City University of New York - Queensborough, (8) Fulton-Montgomery Community College, (9) Nassau Community College, (10), Community College of Beaver County, (11) Northhampton County Area Community College, (12) Baltimore City Community College, (13) Garrett Community College, (14) Wor-Wic Community College, (15) Essex County College, (16) Salem Community College, (17) City University of New York - Hostos Community College, (18) Tompkin-Cortland Community College, (19) Jefferson Community College, (20) Rockland Community College, (21) Lehigh Carbon Community College, (22) Delaware Technical and Community College (Stanton/Wilmington Campus), (23) Frederick Community College

NEASC: (1) Community College of Vermont, (2) Asnuntuck Community College, (3) Community College of Rhode Island, (4) New Hampshire Community Technical College (Berlin/Laconia), (5) New Hampshire Community Technical College (Nashua/Claremont), (6) Bay State College, (7) Bunker Hill Community College, (8)

Greenfield Community College, (9) Massachusetts Bay Community College, (10) Middlesex Community College, (11) North Shore Community College, (12) Quinsigamond Community College, (13) Eastern Maine Technical College, (14) Manchester Community College, (15) Northwestern Connecticut Community College
NASAC: (1) Tacoma Community College, (2) Bellevue Community College, (3) Flathead Valley Community College, (4) Centralia College, (5) Clark College, (6) College of Eastern Utah, (7) Community College of Southern Nevada, (8) Walla Walla Community College, (9) Everett Community College, (10) Blue Mountain Community College, (11) Highline Community College, (12) Lower Columbia College, (13) Linn-Benton Community College, (14) Prince William Sound Community College, (15) Whatcom Community College

SASAC: (1) Aiken Technical College, (2) Alamance Community College, (3) Amarillo College, (4) Angelina College, (5) Ashland Community College, (6) Athens Technical College, (7) Bainbridge College, (8) Coastal Georgia Community College, (9) Bessemer State Technical College, (10) Bladen Community College, (11) Blinn College, (12) Bossier Parish Community College, (13) Brookhaven College, (14) Caldwell Community College and Technical Institute, (15) Calhoun Community College, (16) Carteret Community College, (17) Cedar Valley College, (18) Central Florida Community College, (19) Central Piedmont Community College, (20) Darton College, (21) Chipola Junior College, (22) Clarendon College, (23) Coastal Bend College, (24) College of the Mainland, (25) Columbus Technical Institute, (26) Craven Community College, (27) Danville Community College, (28) Daytona Beach Community College, (29) Del Mar College, (30) Davidson County Community College, (31) Dyersburg State Community College, (32) East Georgia College, (33) East Mississippi Community College, (34) Middle Georgia College, (35) El Centro College, (36) Enterprise State Junior College, (37) Florence-Darlington Technical College, (38) Florida Community College of Jacksonville, (39) Frank Phillips College, (40) Galveston College, (41) George C. Wallace Community College, (42) Gordon College, (43) Guilford Technical Community College, (44) Hazard Community College, (45) Hillsborough Community College, (46) Holmes Community College, (47) Indian River Community College, (48) Jackson State Community College, (49) El Paso Community College, (50) Meridian Community College, (51) Mississippi Gulf Coast Community College, (52) Mountain Empire Community College, (53) North Central Texas College, (54) Orangeburg-Calhoun Technical College, (55) Pensacola Junior College, (56) Randolph Community College, (57) San Jacinto College, (58) San Antonio College, (59) Stanly Community College, (60) Texarkana College, (61) Trident Technical College, (62) West Georgia Technical College, (63) Richard Bland College, (64) York Technical College, (65) South Georgia College, (66) Virginia Highlands Community College, (67) Northwest Vista College, (68) Broward Community College, (69) Cleveland Community College, (70) Ranger College, (71) Eastfield College, (72) Henderson Community College, (73) Howard College, (74) Manatee Community College, (75) McDowell Technical Community

College, (76) McLennan College, (77) Martin Community College, (78) Miami-Dade Community College, (79) Palm Beach Community College, (80) St. Phillips College
WASC: (1) Allan Hancock College, (2) Barstow Community College, (3) Bakersfield College, (4) Cabrillo College, (5) Cerro Coso Community College, (6) Chabot College, (7) Golden West College, (8) Coastline Community College (Fountain Valley), (9) College of Marin, (10) Orange Coast College, (11) College of the Siskiyous, (12) Contra Costa College, (13) Los Medanos College, (14) Cuesta College, (15) De Anza College, (16) East Los Angeles College, (17) Feather River College, (18) Foothill College, (19) Gavilan College, (20) Grossmont College, (21) Imperial Valley College, (22) Laney College, (23) Long Beach City College, (24) Los Angeles City College, (25) Los Angeles Pierce College, (26) Los Angeles Valley College, (27) Los Angeles Mission College, (28) Los Angeles Trade-Technical College, (29) American River College, (30) Mendocino College, (31) Mira Costa College, (32) Monterey Peninsula College, (33) Mt. San Jacinto College, (34) Fullerton College, (35) Oxnard College, (36) Pasadena City College, (37) Merritt College, (38) Santa Ana College, (39) Riverside Community College, (40) Deep Springs College, (41) San Diego City College, (42) San Diego Miramar College, (43) College of San Mateo, (44) Honolulu Community College, (45) Kauai Community College, (46) Hawaii Community College, (47) Winward Community College, (48) Maui Community College

APPENDIX E

MODIFIED MANAGERIAL SURVEY

Instructions

The following questions describe basic managerial functions that are representative of most chief academic officers. Please read each statement carefully and use the four category rating scale to indicate the extent to which each function is required throughout the year in your position as your institution's chief academic officer. Check the appropriate response to each statement. Your first impressions are usually the best. Please give your opinion on every statement. If you find the choices do not adequately indicate your opinion, use the one that is closest to the way you feel. Check only one response for each item.

	Not At All 1	A Little 2	Some 3	A Lot 4
Figurehead				
1. Participating in a variety of symbolic, social, and ceremonial activities such as attending convocations and banquets.				
2. Feeling obligated to perform a number of routine duties of a ceremonial or social nature such as meeting institutional guests.				
3. Participating in a variety of symbolic, social, and ceremonial activities such as speaking at convocations or banquets.				
Leader				
4. Creating a milieu in which faculty and staff will work effectively.				
5. Interacting with colleagues within Academic Affairs to develop professional activities and duties.				
6. Encouraging teamwork among your staff.				
Liaison				
7. Maintaining a network of contacts and information sources outside the Academic Affairs division.				
8. Developing good interpersonal relations with personnel outside the academic office and academic staff.				
9. Passing information between your department and outside departments.				

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	Not At All 1	A Little 2	Some 3	A Lot 4
Monitor				
10.Seeking and receiving information so that you can improve or maintain your understanding of the institution and its environment.				
11.Developing your own contacts to establish a personal and informal information network.				
12.Monitoring the internal and external environments to make sure operations are running smoothly.				
Disseminator				
13.Sharing pertinent information received from outsiders or faculty and staff with the appropriate internal office or individuals.				
14.Sharing accumulated relevant information with faculty and staff.				
15.Ensuring staff and faculty are updated with information relevant to them.				
Spokesperson				
16.Revealing information to people outside the Academic Affairs division or the institution.				
17.Representing the Academic Affairs division or your institution to outside groups.				
18.Speaking to individuals outside your department about information within academic affairs.				
Entrepreneur				
19.Searching the institution and its environment to identify opportunities and situations that may require organizational change.				
20.Initiating and designing much of the change that occurs within the Academic Affairs division.				
21.Scanning the internal and external environment looking for new innovations to be implemented.				
Disturbance Handler				
22.Taking corrective action when you face important, unexpected problems or crises.				
23.Taking corrective action because unexpected pressure from either within or outside your institution is too great to ignore.				

	Not At All 1	A Little 2	Some 3	A Lot 4
24. Putting a stop to misbehavior within or outside your department.				
Resource Allocator				
25. Allocating institutional or Academic Affairs divisional resources.				
26. Scheduling your own time and approving various authorizations within academic affairs.				
27. Spending time on resource allocation for personnel in Academic Affairs.				
Negotiator				
28. Representing the Academic Affairs division or the institution at various non-routine discussions or negotiations.				
29. Resolving problems that develop with other institutional units.				
30. Working with two parties to come to an agreement.				

PLEASE ANSWER THE FOLLOWING GENERAL QUESTIONS

31. How satisfied are you with being a Chief Academic Officer?
_____Not At All (1) ____ A Little (2) ____ Some (3) ____ A Lot (4)

32. Are the faculty members at your institution represented by collective bargaining contracts? __yes __no

33. How many individuals (i.e. unit heads, department chairs or other administrators) report directly to you? _____

34. How many years have you been employed in your current position? _____

35. How many years have you worked for your current employer? _____

36. How many years of managerial experience (department head or higher) do you have? _____

37. What is your age? _____

38. What is your gender? ____ female ____male

39. How much role ambiguity would you say your job has: __None (1) __A Little (2) __Some (3) __A lot (4)

Thank you for participating in this study. If you have questions please do not hesitate to contact me using the phone number or e-mail address listed below. Please return the completed survey in the enclosed reply envelope to:

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APPENDIX F

FACTOR ANALYSIS

To internally measure the instruments internal validity, factor analysis was used. Factor analysis is used to simplify large data sets into smaller and homogeneously defined factors. The technique created correlations between each of the instruments 30 items and nine factors the items loaded on. Since, there are ten managerial roles, the researcher expected the 30 questions to load onto 10 managerial roles. Under the most ideal of situations, this result would be expected. However, for educational research, having the 30 questions load onto 9 factors was considered adequate.

Table F1 shows the correlated coefficients of the 30 questions to the nine factors. The correlation matrix was simplified by rotation with Kaiser Normalization and the use of the principal factor.

Definitions of the Factors

Factor 1 - Contains the Monitor role and the Spokesperson role.

Factor 2 – Contains the Liaison role and the Disseminator role.

Factor 3 – Contains the Figurehead role.

Factor 4 – Contains the Disturbance Handler Role.

Factor 5 – Contains the Monitor Role, Negotiator, and Resource Allocator.

Factor 6 – Contains the Negotiator Role.

Factor 7 – Contains the Entrepreneur Role.

Factor 8 – Contains the Leader Role.

Factor 9 – Contains the Leader Role, the Liaison Role, and the Monitor role.

Table F.1: Factor Analysis of Managerial Roles

Role	Factors									h^2
	1	2	3	4	5	6	7	8	9	
(18) S	0.83									.614
(17) S	0.82									.686
(16) S	0.81									.680
(11) M	0.56									.543
(14) D		0.92								.751
(15) D		0.76								.659
(13) D		0.69			0.36					.692
(9) Li	0.31	0.46								.502
(2) F			0.90							.786
(1) F			0.89							.787
(3) F			0.86							.759
(24)DH				0.87						.802
(22)DH				0.83						.742
(23)DH				0.81						.702
(26)RA					0.76					.604
(27)RA					0.74					.707
(25)RA					0.54			0.42		.579
(12) M					0.52					.609
(28) N					0.47	0.37				.667
(29) N						0.96				.832
(30) N						0.83				.714
(19) E							0.78			.705
(20) E	-0.31						0.78			.739
(21) E							0.63			.677
(4) Le								0.79		.674
(5) Le								0.69		.620
(8) Li									0.87	.645
(6) Le								0.37	0.52	.513
(7) Li	0.39								0.44	.523
(10) M								-0.31	0.41	.644
Eigenvalues	7.53	2.25	2.14	1.81	1.65	1.44	1.18	1.12	1.04	
Percent of Variance	25.09	7.50	7.12	6.02	5.50	4.81	3.93	3.74	3.48	

Extraction Method: Principal Component Analysis.
Rotation Method: Promax with Kaiser Normalization.
Rotation converged in 17 iterations.
All values under 0.30 were suppressed.

According to Mintzberg, all ten managerial roles form an integrated whole. Therefore, each role should correlate with at least one other role. According to the instrument (N = 184 cases; N = 30 items), the ten roles did correlate with at least one other managerial role. In most cases, each role correlated with more than one other role. Table F2 reveals the correlations between the ten managerial roles. The roles are in order (1) Figurehead, (2) Leader, (3) Liaison, (4) Monitor, (5) Disseminator, (6) Spokesperson, (7) Entrepreneur, (8) Disturbance Handler, (9) Resource Allocator, and (10) Negotiator.

Table F.2: Spearman's rho Correlations of the Ten Managerial Roles***

1	2	3	4	5	6	7	8	9	10
1	.13	.22**	.25**	.24**	.28**	.17*	.19**	.13	.16*
2	1.0	.23**	.18*	.23**	.25**	.13	.28**	.30**	.26**
3		1.0	.46**	.37**	.34**	.27**	.30**	.23**	.16*
4			1.0	.42**	.47**	.44**	.33**	.32**	.25**
5				1.0	.29**	.36**	.31**	.40**	.21**
6					1.0	.39**	.33**	.29**	.39**
7						1.0	.30**	.24**	.26**
8							1.0	.36**	.49**
9								1.0	.40**
10									1.0

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
*** Data is ordinal.

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